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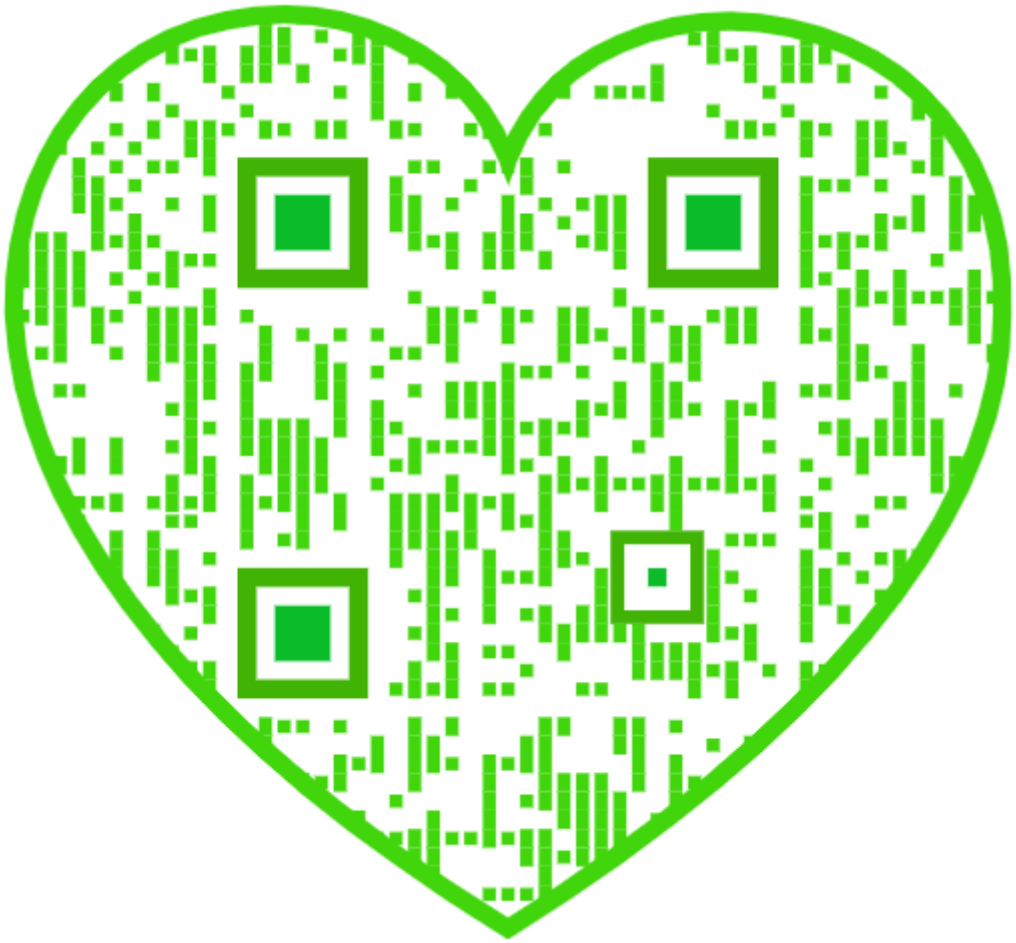

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THE

Dairymen's Assistant

AND Cattle Breeders' Manual

By R. W. TAYLOR.

PRESS OF FRANDZEN, BUMGARDNER & CO.

The Dairymen's Assistant

AND

Cattle Breeders' Manual.

A TREATISE ON THE DISEASES OF COWS AND CALVES,

THEIR SYMPTOMS, MANAGEMENT, TREATMENT

AND CURE.

BY

R. W. TAYLOR.

154902

PRESS OF

FRANDZEN, BUMGARDNER & CO.

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April 5, 1895.

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INTRODUCTION.

The following treatise on the diseases of neat cattle, and cows in particular, is not the production of a few years experience, but the result of many years of practice.

The motives for publishing a treatise on the disorders incident to these valuable animals are briefly as follows:

First.—They have hitherto been almost entirely neglected, or but very briefly mentioned by most authors on cattle and their diseases.

Second.—In most of the publications on neat cattle, those parts devoted to medical treatment have very far lacked the requisite bounds in the quantity of the doses prescribed; and thus, in all probability, the loss of many valuable animals has been ocasioned. For instance, from three to six ounces of Glauber Salts are prescribed for full-sized animals, in some works, whereas I have always found that a less quantity than one pound would not purge full grown animals.

Third.—It will be seen that most of the drinks, prescribed in this treatise, are so adjusted in point of quantity and preparation as to produce the desired effect when properly administered. The practitioner is frequently cautioned in this work to see that articles containing an essential oil, such as seeds of every kind, and many of the roots, are pulverized at the time of using, for if kept in a powdered state they in a short time lose all their medicinal virtue.

It is of the greatest importance to have genuine drugs in the cure of the diseases peculiar to cattle of all kinds.

These animals do not require the seeds and roots to be reduced to so fine a powder as others that do not ruminate, or chew their cuds.

It remains only to state what has been attempted in this treatise.

(1) A concise description of every disease has been given, together with a method of treatment of the same through every stage.

(2) A number of valuable recipes are here made known, such as have never before been published. The writer of this work is fully aware that the generality of cow-doctors, so called, will complain that many of the recipes are too expensive, so as not to leave much profit to them, though not one of them will probably exceed one dollar. Be it, however, observed that he has not considered their interests but that of the owners, and the lives of the animals.

Cattle of every description are valuable to the owner. If a poor man, for instance, lose a cow, it frequently is an irreparable loss, when, at the same time, if a drink or two, at the cost of a few cents each, had been given her, she might have been saved, pro-

vided the medicine were administered in season and proper treatment rendered according to the directions laid down in this treatise.

Particular diseases, requiring more than ordinary care. are discussed at considerable length in this work. Such are the Downfall in the Udder of cows, Red Water, Black Water, Fevers, etc.

A small part of this book is devoted to the description of the different diseases incident to young calves, together with the medicines suitable to each.

The age of neat cattle is very requisite, and should be known by everyone who has anything to do with them. They have no front teeth in the upper jaw, the age therefore must be determined by those of the lower jaw. At two years old they get two new front teeth, or nippers, and every succeeding year they get two more until they are five years old; at six they become full-mouthed, the last two teeth being completely up.

There is also another way by which the age of cattle may be determined, viz., by the horns. At the age of three years their horns are smooth and even, and every succeeding year there is a wrinkle or circle round the base near the head, which keeps moving the other forward, so that if the first be stated at three years it will be easy to tell the age of any animal after that time.

But as some breeders of cattle in late years have thought best to dehorn their stock, and as there are some breeds that are devoid of horns, therefore the teeth alone must be relied on up to six years.

It is to the interest of every owner of a cow to be acquainted with her different diseases, their symptoms and methods of treatment, and if this were more generally the case he would rarely, if ever, have occasion to call to his aid a veterinary.

Medicines when wrongly applied, or not given in a sufficient quantity, increase the malignity of most diseases, while too large a dose may endanger the animal's life.

By strict attention to the rules contained in this treatise most persons will be enabled to act with propriety and judgment in caring for their cattle in case of sickness.

THE DAIRYMEN'S ASSISTANT AND CATTLE BREEDERS' MANUAL.

SECTION I.

FELON, EPIDEMIC COLD, OR INFLUENZA.

The observations most worthy of notice in this disease relates to its first cause. It in general proceeds from the sudden change of the atmosphere from a warm and moist air to a piercing cold and dry wind, which powerfully affects the whole animal frame by shutting up the pores of the skin, and in a great measure putting a stop to perspiration. In cases of this kind the hide becomes thickened and the hair looks penfeathered or staring, and appears to stand the wrong way on the animal's back.

Cows are the most liable to be afflicted by the Influenza, owing to the different state or changeableness of the weather, and also from their being more tenderly managed by being housed during the winter. The prevailing north and northeasterly winds, at the spring of the year, very often produce dangerous and sometimes fatal diseases. Horned cattle, particularly cows, are subject to a great variety of diseases, which are for the most part brought on by the different effects of the elements on the animal frame; and often in a few days reduce them from a state of perfection to a mere skeleton. In this case the regular course of the blood through the veins and arteries is obstructed, which frequently causes an inflammation to take place in some particular part of the body, as the stomach, bowels or intestines, kidneys, bladder and sometimes even the brain. In cases of this kind bleeding should not be neglected. Hence are produced fevers of different descriptions, which will be discussed under their proper heads in this treatise.

The first symptoms that are produced by taking cold are a heaviness in the head and dullness in their motions, with weeping eyes, a sudden depression of the milky secretions, and if the hand be pressed upon the chine, or any part of the back, the animal will instantly give way. This is for the most part called the Chine Felon. At other times the joints become more particularly affected than any other part, from which circumstance it is in geneal termed the Joint Felon. Old cows are the most subject to this last complaint, especially a short time before calving. It is attended with considerable pain and weakness; if the animal lie down she is seldom able to rise without some assistance till after calving. This necessarily occasions much trouble to the owner, which, if proper care had been taken, might have been prevented. When this happens they

generaliy require some assistance at rising, until the time of calving, in all other respects they appear well and eat their food as usual. For more information on this head see Rheumatism or Joint Felon in this treatise.

In the cure of colds of every description the first attempt should be to remove the cause by giving to the animal a warm cordial drink, which, acting as a stimulant on the stomach and intestines, will give fresh motion to these parts, and will enable nature to resume her former course. Either of the following drinks will be found sufficient to answer the desired effect, under proper management.

RECIPE NO. 1.—Take aniseeds, carraway-seeds, grains of paradise, and fenugreek, of each two ounces, fresh powdered; mix them together for one drink.

RECIPE NO. 2.—Take sweet fennel seeds and cummin seeds, of each two ounces, fresh powdered, long pepper, turmeric, ginger, and enula campana (elecampane), each one ounce, fresh powdered; mix for one drink.

The method of giving either of these drinks is as follows: Take one and put it in a pitcher with two ounces of fresh butter and four ounces of course sugar or molasses; then pour one quart of boiling water upon the whole; cover them down till new-milk warm; then add a gill of gin, brandy or whisky; then give the whole for one drink to the beast. By this method the whole virtue of the seeds will be retained, which chiefly consists in the essential oil. By giving a few of these drinks to cattle that have been much reduced from scanty food, during a long winter, the animals have been so much revived thereby as to resume nearly all their original life and vigor. In cases of this kind, where the system appears debilitated, one of the above drinks may be given every day for three or four days: but if the animal be in tolerable condition the drinks may be repeated every other or third day, as may be thought most requisite.

In two hours after giving the drink give the animal a good mash of scalded bran, with a pint of meal of corn, oats or barley added, and warm water that day. In slight colds during summer these drinks may be given to cattle while in their pasture; and where it can be convenient, let them fast two hours after, and then graze as usual. It is also necessary to examine the sick animals every day, to see whether the body be of a proper heat, and the nose in a natural condition, and the bowels regular.

If these be regular there is not much danger. If, however, feverish symptoms should appear (which frequently happens), the animal will become costive; or, what is best understood by the word saped, and if not speedily relieved will be in danger. In such cases let one of the following purging drinks be given:

RECIPE NO. 3.—Take Glauber's salts, one pound; ginger (in powder) two ounces; molasses, four ounces. Put all the ingredients into a pitcher and pour three pints of boiling water upon them. When new-milk warm give the whole for one dose.

RECIPE NO. 4.—Take epsom salts, one pound; aniseeds and ginger, in powder, each two ounces; molasses, four ounces. Let this drink be given in the same manner as the above (No. 3).

In most cases either of these drinks will be found sufficient to purge a full-grown animal of this kind. The last, I frequently think, works its passage more quickly. If either of these drinks fail in the operation in sixteen or twenty hours let one-half of either No. 3 or No. 4 be repeated every night and morning until the desired effect be obtained. By strict attention to the above method of application a fever may be prevented and the animal speedily restored. It should, however, be recollected that, after the intestines are sufficiently evacuated, it will be proper to repeat the cordial drink, No. 1 or No. 2, for a few times.

SECTION II.

PERIPNEUMONY OR INFLAMMATION OF THE LUNGS.

Hepatic diseases amongst cattle are of frequent occurrence, and are produced by a variety of causes.

FIRST.—By the powerful effects of the elements upon the animal frame in bringing on this disease—dry, harsh winds are severely felt by shutting up the pores of the skin and checking the perspiration, which is so essential to life and to the health of the animal as not to be dispensed with.

SECONDLY.—It has frequently been brought on by drinking cold water when over heated.

THIRDLY.—At other times it has attacked those which have been turned into fresh pastures, when their stomach has been overcharged with herbage, in consequence of which the load upon the lungs becomes very oppressive; the sizy and viscid part of the blood obstructs the vessels and brings on difficulty in breathing, attended with a troublesome cough and hoosing.

These symptoms indicate the lungs to be considerably affected. While the discharge from the nose and mouth continues to be pretty copious, the inflammation makes but little progress; but, as soon as this discharge is stopped, it rapidly increases; and if not timely checked, will quickly terminate in the animal's death. Symptoms of an inflammation taking place are discovered by the body becoming alternately hot and cold—the extremities for the most part cold, especially the ears, horns and feet; if the beast be in low condition, weak and much debilitated, bleeding is seldom necessary; but, if on the contrary, the animal be in high condition, the fever appears to increase, and the body feels of a hot, dry and parching heat, and the breath the same; further, if the white of the eyes appears to be much inflamed, and tinged with a yellow hue, bleeding in such cases will become highly necessary in this stage of the disease. From two to four quarts of blood may be taken away, according to the size, strength and condition of the animal; and if found necessary let it be repeated. A small quantity may be taken

away every day, or every other day, according to the violence of the symptoms.

Sometimes this disease puts on a flattering appearance, the fever and heat appear small and scarcely perceptible; at other times it seems rapid in its progress.

The cause of this disease appears in a great measure to proceed from a deficiency in the animal's nature of performing its regular course, in carrying on a due circulation through all the vessels. The redundant state of the blood, through these impediments, becomes surcharged with the pituitous lenter of the blood and humors; for the glands cease to secrete the bile, which is not poured into the intestines, but becomes deposited on the skin. Hence is produced the jaundice, which is known by yellowness of the eyes and of the different parts of the body.

The cure must be attempted according to the symptoms already noticed. The costive state of the animal's body which, in general, accompanies this disease, must be strictly attended to. Let, therefore, the purging drink (No. 3) or (No. 4) be given as above directed and the body be afterwards kept open by giving one-half of either of the before mentioned purging drinks in the morning and the other half in the evening, about every second or third day, as occasion may require.

If the fever continues after the intestines have been evacuated (which is seldom the case), it will be proper to take some blood from the animal, and the quantity must be regulated according to the disease and habit of body. By strict attention to the above rules the disease will be checked, and the animal's body properly prepared for either of the following drinks, which may be given every day, except on those days when the purging drink is given:

RECIPE NO. 5.—Take aniseeds and carraway seeds, in powder, each two ounces; ginger and nitre, in powder, each one ounce; salt of tartar, one ounce; gum myrrh, in powder, half an ounce; mix them together for one drink.

RECIPE NO. 6.—Take sweet fennel seeds, in powder, two ounces; grains of paradise, in powder, one ounce; Peruvian bark, in powder, salt of tartar, mottled soap, sliced, each one ounce; for one drink.

Either of these drinks may be given in a quart of thin gruel, with a wine glass of gin or other spirits, and sweetened with four ounces of molasses or sugar. It will be proper to repeat these drinks, as stated above. Warm water, mashes and gruel must be regularly given two or three times a day.

These drinks will be found to operate powerfully in expelling the disease and to promote insensible perspiration, as well as in dissolving and evacuating the phlegm in the ventricles and intestines, while they will also open and cleanse the vessels in the lungs and bring them to a regular performance of their functions. After a strict application of the aforesaid remedies, and of the management according to the rules already laid down, if any symptoms of the disease should still remain, it will be proper to give the following drink:

RECIPE NO. 7.—Take valerian, in powder, two ounces; dried squills, in powder, half an ounce; gum myrrh, in powder, half an ounce; balsam of sulphur and balsam of copaiva, each one ounce; the two last articles to be beat up with the yolk of an egg; add sweet spirits of nitre, one ounce; tincture of opium, half an ounce; mix for one drink.

Let this drink be given in a quart of warm gruel sweetened, and a wine glassfull of gin be added to it, and treat the animal with mashes and warm water as before. This drink may be repeated every third day for three or four times.

SECTION III.

THE YELLOWS OR JAUNDICE.

This is a common disease among neat cattle and proceeds from the obstruction of the gall bladder and the cystic duct. The gall is a yellow liquor, separated in the liver and collected in the gall bladder; its great use is to mix with the chyle, to rouse the peristaltic motion of the intestines, and to finish digestion. This saponaceous juice corrects the acidity in the stomach and bowels; its salutary effects are powerfully felt in all parts of the body.

The Yellows, or Jaundice, consists in a diffusion of this bile throughout the whole body, and is favoured by everything that obstructs its passage into the duodenum. This disease is first observable in the white of the eyes, which appears of a yellow tint, and as it increases the whole skin becomes impregnated with the same yellow hue; the ears, tail, eyes and mouth are the parts where it is most conspicuous to the sight. In every stage of the disease the animals are attended with weakness and a great debility of the nervous system, a listleness to move and want of appetite. When in the pasture they wander about by themselves, by the side of fences, in a dejected manner.

These appearances sufficiently indicate the disease. Milch cows are the most subject to it in the spring and the latter end of the year, although they are not exempt from it at all other times of the year. The most dangerous state in this disease is when a scirrhus liver is the cause; little hope can then be entertained of a permanent cure. The fluctuating state of the weather has a powerful effect upon the animal frame in retarding or promoting the cure; care should also be taken to house them at all unfavorable opportunities.

As soon as this disease makes its first appearance it may for the most part be removed by administering the following drink:

RECIPE NO. 8.—Take cummin seeds, aniseeds and turmeric root, in powder, each two ounces; grains of paradise, in powder, castile soap and salt of tartar, each one ounce; molasses, two ounces; mix for one drink.

Slice the soap and put the whole into a pitcher, then pour a quart of boiling water upon the ingredients and cover them down till new-milk warm, then give the drink. It will be proper to repeat this drink for two or three times, every other day, or oftener if required. If the animal be in fair condition from two to three quarts of blood may be taken away; they should not be turned out after bleeding that day, nor at night, but the following morning they may go to the pasture. If the disease do not give way to the above treatment, but still keeps on the increase, it will be proper to give the purging drink No. 3 or No. 4. After this has had the desired effect let the following be given:

RECIPE NO. 9.—Take balsam of copaiva and salt of tartar, each one ounce; castile soap, two ounces; beat them together in a mortar; add valerian root, in powder, two ounces; ginger root and Peruvian bark, in powder, each one ounce; molasses, two ounces; mix for one drink.

Let this drink be given in a quart of warm gruel and repeated if necessary every other day. It will be found excellent in removing obstructions and promoting a free circulation through all the animal secretions.

It must be observed that it will be proper to keep the body sufficiently open through every stage of the disease, for if costiveness be permitted the fever will increase, and if not timely removed the disorder will terminate fatally. The following purging drink will be found well adapted for opening a passage through the intestines and removing those secretions that obstruct the progress of the bile.

RECIPE NO. 10.—Take Barbadoes aloes, one ounce; castile soap, salt of tartar and ginger, in powder, of each half an ounce; aniseeds, fresh powdered, two ounces; castor oil, four ounces; molasses, four ounces; mix for one drink.

Put the above ingredients in a pitcher, pour on them a quart of boiling water and when new-milk warm give it to the animal.

This drink will in general operate in from twelve to sixteen hours. But when this happens not to be the case, let one-half of the last-mentioned drink be repeated every night and morning until the desired effect be accomplished. And as soon as the cause is removed the animals may speedily be restored to their former health, by giving two or three of the drinks No. 1 or No. 2, and if a milch cow, they quickly restore them to their former flush of milk.

SECTION IV.

INFLAMMATION OF THE BRAIN.

This disease is one of the most distressing to which cattle are subject and is commonly called frenzy. It is most prevalent during the hot months in summer. It is sometimes idiopathic, or a primary disease; at other times it is symptomatic. Inflammation of the brain proceeds from some other malady, as fevers of a dif-

ferent kind, or from an inflammation taking place in some particular part of the body, and is transferred to the brain. The cause is too great an efflux of blood pressing upon the temporal arteries, from which an increased action of the vessels takes place. The symptoms that usually precede a true inflammation of the brain are a kind of madness attended with ravings and constant watchings, slow respiration, and a strong pulsation in the temporal arteries. The animal appears in a very fierce state, as if seized with a turbulent kind of madness. The eyes appear much inflamed and ready to start from their orbits; the beasts often fall down of a sudden and rise again with the same volatility, until nature is quite exhausted; a constant trembling and starting of the tendons; a dry and harsh skin; a suppression of the urine; grinding of the teeth and a total want of rest. These last are unfavorable symptoms.

The Frenzy or Inflammation of the Brain is sometimes occasioned by wounds or contusions in the head, that are attended with violent inflammations of the vessels, and if not speedily relieved may terminate in a gangrene or a mortification, which is very often the case, and that in a few days.

Wounds in this state require the speedy application of the most powerful medicines, for the proper administering of which consult section 26 on wounds.

In the cure of this disease the following method must be attended to: First lessen the quantity of blood by frequent bleeding, which may be repeated daily if required, and by which the great efflux of blood upon the temporal arteries will be lessened and much retarded. The following purgative drink will be found suitable for this disease, and likewise for most fevers of an inflammatory nature.

RECIPE NO. 11.—Take glauber salts, one pound; tartarized antimony, one drachm; camphor, two drachms; molasses, four ounces; mix and put them into a pitcher and pour on them three pints of boiling water; when new-milk warm add tincture of opium, half an ounce, and give it all for one dose.

This drink will, in general, operate in the space of twenty hours; if not, let one-half of the quantity be given every night and morning until the desired effect be obtained.

This will be found a powerful drink, not only in acting as a purge, but in opening obstructions by which the offending cause will quickly be removed. After the intestines have been sufficiently evacuated by giving the above drink (No. 11) it will be found necessary to give the following powder as long as any inflammatory symptoms remain:

RECIPE NO. 12.—Take white antimonial powder, two drachms; nitre, one ounce; camphor, in powder, and tincture of opium, of each two drachms; mix for one dose.

These powders must be given in a pint of warm gruel, and repeated every morning and evening until the fever begins to abate; afterwards once a day will be sufficient. It frequently happens in this disease that an inflammatory swelling takes place upon the jaws, and on different parts of the head. In cases of this kind there

is a difficulty in swallowing, and as the inflammation increases the jaws become gradually closed so as not to be opened without an instrument. This is termed Locked Jaw, the treatment of which will be found in section 6.

Inflammations and contractions in these parts require medicines of the most powerful kind. The following will be found excellent for the purpose:

RECIPE NO. 13.—Take the best soft soap, six ounces; spirits of hartshorn, rectified spirits of wine and tincture of opium, of each eight ounces; oil of origanum, two ounces; mix the soap and spirits of hartshorn well together in a mortar, then add the remainder of the articles and mix them all together, and keep them in a bottle well corked for use.

This liniament will be found a powerful medicine in all anti-spasmodic diseases of this kind. The parts afflicted must be well rubbed with it every morning and evening, or oftener if required. The animals, under all these afflictions, can seldom of themselves take a sufficient quantity of nourishment to keep them alive. It will therefore be found necessary to give a sufficient quantity of that kind which produces the most nutriment.

The following gruel will be found adequate to the purpose:

Take an equal quantity of oat and linseed meal, make them into a thick gruel by boiling in a sufficient quantity of water, sweaten with coarse sugar or molasses, and a little salt may be added, and when new-milk warm from two to four quarts may be given to the animal, or more if necessary, three or four times a day.

By these means the strength of the animal will be supported, and it will be the better enabled to undergo the operation of medicine. This is considered one of the severest diseases to which neat cattle are liable; and after the symptoms disappear it leaves them in a low, dejected and debilitated state.

The following restorative drink will be found very suitable for such cattle as have been reduced by severe disease:

RECIPE NO. 14.—Take Peruvian bark, in powder, one ounce; nitre and salt of steel, in powder, of each one ounce; aniseeds and carraway seeds, in powder, of each one ounce; mix in a quart of boiling water or gruel; add a glass of gin or brandy and sweeten with four ounces of molasses and give for one drink.

It will be necessary to repeat this drink every two or three days for three or four times, or longer if required, or the following if thought more proper may be given:

RECIPE NO. 15.—Take Peruvian bark and gentian, in powder, each one ounce; rust of iron, half an ounce; ginger root, in powder, one ounce; elixir of vitrol, two drachms; molasses, four ounces; gin or brandy, two tablespoonsfull; mix and give it the same as No. 14.

SECTION V.

MURRAIN OR THE PESTILENTIAL FEVER.

This is another of those severe diseases which afflict neat cattle, and which very often prove fatal among them. It has, at times, made great ravages in most parts of Europe, as well as in America.

This disease made great destruction among neat cattle in England some years ago. And I may further add that few years pass without its appearance in some part or other, and with different degrees of virulence. It has been thought that the murrain bears some resemblance to the plague, or the yellow fever, both of which have proved so fatal to mankind.

There is every reason to suppose that this distemper is a contagious one, and is drawn in by the breath of the animal from others that are infected; and if the latter were timely separated there is no doubt but that the further progress of the infection would be prevented.

This disease is of the putrid kind, and is first observed by its effects in disordering the whole animal frame for several days before it makes its outward appearance. The foot and mouth disease, and the pleuro-pneumonia is no doubt a type of the murrain, and therefore the same treatment will be found beneficial.

The first symptoms that appear are a shivering and trembling of the limbs, a decrease of appetite, the head and neck protruding, a difficulty in swallowing, the eyes appear dull and languid and often shed tears; together with a continual scouring. In a few days the breath, and also the dung of the diseased animal, become fetid and very offensive. The steam that perspires from the body, the breath and the excrements, affect the surrounding air for some distance; the body and limbs cold; the head, horns and breath are very hot; the mouth affected with blisters.

This pestilential disease is one of the most violent that can befall neat cattle. From the violence of the fever an inflammation quickly takes place in the stomach and intestines. It may also be discovered by the appearance of a morbid tumor either across the loins or on some other part of the body; and if the hand be pressed upon the swelling it makes a crackling noise somewhat similar to that of a bladder when dry. The cause of this sound is the violence of the fever drying up every appearance of moisture.

In this stage of the disease a gangrene, or a mortification in general, takes place which, though it leaves but little hopes of recovery, yet does not diminish our duty in using every means in our power to terminate the progress of so destructive a malady.

The more favorable symptoms are as follows: When the fever is checked in its progress, the tumor gradually fills and forms a good pus, and is discharged in a proper manner.

The method of cure recommended is, first to bleed the animal a little if preferred, or as soon as possible after the disease is discovered, let the purging drink (No. 11) be given, and repeated as there directed until the desired effect be obtained. It sometimes happens after giving this drink that the animal throws it up again, which is chiefly owing to a quantity of acid being formed in the

beast's stomach from a load of indigested food. When this is the case it will be proper to give one of the purging drinks, Nos. 3, 4 or 10, as there directed, which will correct the acid in the stomach, and for the most part produce the desired effect; if not, it must be repeated until the load is removed. If the fever is not checked, or put a stop to, after the stomach and intestines are evacuated, let two quarts of blood be taken from the beast, and the powders (No. 12) be given as there directed. By strict attention to the aforesaid treatment the fever will in general be removed in the course of a few days; should it, however, continue to increase, and proceed gradually to a state of putrefaction, let the following drink be given:

RECIPE NO. 16.—Take alum, in powder, four ounces; nitre and Peruvian bark, in powder, of each one ounce; molasses, four ounces; mix for one drink.

Let these ingredients be put in a pitcher and a quart of hot gruel poured upon them; when new-milk warm add half a pint of vinegar and give it to the animal. It may be repeated once a day for three or four days, as circumstances may require. This drink will also be found excellent in preventing the infection from spreading among the other cattle.

As this disease proceeds to a crisis the most difficult time is from the sixth to the ninth day; if the animals survive the last, they will in general get the better. They are left in a low and debilitated state, for which it will be proper to give them one of the restorative drinks, Nos. 14 or 15, and repeat it as there directed. As soon as any swelling begins to make its appearance in any part of the body (which is almost sure to be the case in a few days after they are attacked) let the following mixture be well rubbed in on the parts affected.

RECIPE NO. 17.—Take nitre, four ounces; vinegar, one quart; dissolve the nitre in the vinegar; add oil of vitroil, one ounce; tincture of opium, two ounces; camphorated spirits of wine, four ounces; mix them together in a bottle for use.

The parts affected must be rubbed with this mixture two or three times a day. It will be found a powerful application in repelling or stopping the progress of this black mortifying tumor.

When the inflammatory tumors terminate in a gangrene or mortification, their approach will be known by the following symptoms: The inflammation loses its redness and assumes a dusky or livid color; the tension of the skin goes off, and the latter feels of a flabby nature; the complexion of the tumor changes from that of livid to a more dark or black appearance; the pulse is quick and low, accompanied with cold and clammy sweats. When these symptoms appear there are but little hopes of recovery. The more favorable symptoms are those when the tumefied parts are gradually proceeding to a state of suppuration. In this case the restringent mixture must be omitted and the following emollient oils be well applied on the parts affected two or three times a day:

Take oil of elder, four ounces; spirits of turpentine and linseed oil, of each three ounces; water of pure ammonia, two ounces; opo-

deldoc and tincture of opium, of each two ounces; mix and bottle for use.

As soon as matter or pus is sufficiently formed it may be discharged with a lancet or knife, and afterwards dressed with digestive medicines. For the proper treatment of which see section No. 26 on wounds.

Further, the animals suffering under this disease are in general severely afflicted with a sore mouth, full of blisters and much inflamed. The following mixture will be found suitable for the purpose of washing or gargling the mouth and throat:

RECIPE NO. 19.—Take alum, in fine powder, two ounces; nitre and bole armenic, in powder, of each one ounce; honey, two ounces; white wine vinegar, one quart; mix and keep them in a bottle for use.

The mouth must be well washed with this mixture two or three times a day in the following manner: Take a stick about two feet long and fold round one end a small lump of linen, secure it well with thread, pour some of the wash into a pot; dip the linen into the gargle mixture and apply it all over the mouth.

Neat cattle suffering under this severe disease are seldom of themselves able to take a sufficient quantity of nourishment, therefore give the gruel as recommended in Brain Fever, three or four times a day, and, as soon as they will eat, let them have a mash of bran scalded, with a little corn meal added. Proper care and good nursing will quickly bring them about.

SECTION VI.

BLACK LEG, QUARTER-EVIL, OR BLACK QUARTER.

This disease is called by a great number of names, but as they all indicate the same disorder, it will be no advantage to repeat them here.

The symptoms are in many respects similar to those of the Murrain or Pestitential Fever. It is, however, necessary to discuss this malady in a separate section, as it does not appear to be either infectious or epidemic, but is almost wholly confined to young cattle from one to two years old. The Quarter Evil chiefly effects such as are in the best condition. Milch cows, or lean cattle of all descriptions, are seldom seized with this disease, and during the winter it is not known. The summer season is the time when it makes its appearance, and very often proves destructive to great numbers of young cattle. When the vegetable creation springs up in all its perfection the young animals are not able to stand such luxurious living, particularly those which have been much reduced by scanty food during winter.

The cause proceeds from a redundance or overflowing of the blood, which is very great, and frequently occasions them to drop and die suddenly in a state of putrefaction.

The symptoms are a sudden depression of the whole animal frame, as if seized or struck with the palsy. A swelling takes place

immediately in some part of the body, as on the legs, shoulders, under the belly, or on some part of the back; when it appears on the last part towards the loins, it will be attended with the most danger. It is first discovered by the crackling noise made by the swelling when the hand is pressed upon it, and owing to a quantity of air being collected between the skin and flesh. The mouth and tongue are full of blisters from the violence of the fever.

As soon as this disease makes its appearance upon the young animal, take from one to three quarts of blood away, according to age and size. Two hours after bleeding give the following purging drink, which will be found of a proper strength for young cattle from the age of one to two years old:

RECIPE NO. 20.—Take glauber salts, from eight to twelve ounces; white antimonial powder, one drachm; camphor (rubbed into powder, with a few drops of spirits of wine), one drachm; aniseeds and ginger powdered, of each one ounce; molasses, four ounces; mix for one drink.

Put the ingredients in a pitcher, pour on them a quart of boiling water, cover the pitcher until new-milk warm and then give it. If the animal be more than two years old the salts may be increased in proportion until the quantity shall amount to one pound.

This will be found a powerful drink in removing those inflammatory symptoms which attend diseases of this kind, as well as to evacuate the stomach and intestines. But if it should fail in purging the animal in the space of twelve or twenty hours, it must be repeated by giving one-half of the drink night and morning until the desired effect be obtained; as without this there are but little hopes of recovery. When this is accomplished the following drink may be given once a day, or every other day, as may be thought necessary:

RECIPE NO. 21.—Take alum, in powder, two ounces; nitre, in powder, one ounce; Peruvian bark, in powder, half an ounce; aniseeds and carraway seeds, in powder, of each one ounce; molasses, four ounces; mix for one drink.

Put the ingredients in a pitcher and pour on them a quart of boiling water as in No. 20, and when new-milk warm add half a pint of vinegar and give it at once. If the fever be attended with considerable inflammation in the parts affected, and still continue to increase, it will be proper to omit the above drink and have recourse to the powders (No. 12) and give them as directed. And as soon as the unfavorable symptoms disappear the above drink may be given. All the swollen or tumefied parts must be well rubbed with the mixture (No. 17). But if the tumor gradually proceed to suppurate it will be proper to encourage it by applying the mixture, No. 18, or the following, as may be thought best:

RECIPE NO. 22.—Take Marsh-mallows ointment and Elder ointment, of each four ounces; spirits of turpentine, two ounces; oil of vitrol, half an ounce; mix and stir them together; then add olive oil, four ounces, and stir all together for use.

All the tumefied parts must be well rubbed with this ointment twice a day, and if it be thought proper and not too much trouble, the parts may be fomented with the following preparation:

RECIPE NO. 23.—Take white poppy heads, in number, twelve; wormwood, one ounce; marsh-mallows root, one ounce; linseed, bruised, half a pound; bruise the poppy heads and boil the whole in two gallons of ale or beer dregs.

Then take a large piece of flannel, and wring it out of the liquor as hot as possible, and apply to the swelling. This will very much assist the formation of pus; and as soon as it is brought to a state of maturation it must be opened with a lancet, and afterwards dressed in the same manner as other wounds in section 26.

The mouth is generally infected with blisters, which must be examined and pricked with a lancet, and afterwards dressed with the mixture, No. 19, as there directed, or with the following mixture:

RECIPE NO. 24.—Take burnt alum, half an ounce; armenian bole, in powder, half an ounce; common salt, two ounces; put the whole in a pitcher, then pour a pint and a half of hot vinegar upon them; when cold bottle for use.

Apply the mixture in the same manner as directed for recipe No. 19. It will be proper to take a few observations respecting the prevention of this malady. Every possible precaution cannot be too strictly adhered to in preventing so destructive a disease among young cattle, for if once attacked their cure may be doubtful. Such as thrive most, are, in general, first attacked, and in the greatest danger. As soon as this disease makes its appearance upon any one of the herd, while in the pasture, they should be put in a fold yard in the evening, and from two to three quarts of blood taken from each, according to its size and strength. Let them be kept there until morning and then give to each animal one of the following drinks:

RECIPE NO. 25.—Take crude antimony, in powder, half an ounce; sugar candy and nitre, in powder, of each one ounce; myrrh, in powder, a quarter of an ounce; flour of sulphur, two ounces; mix for one drink.

This drink must be given fasting in the morning, in a quart of warm gruel; two hours after the beasts may be put into the pasture. Or the following may be given if thought more proper:

RECIPE NO. 26.—Take nitre and madder, in powder, of each one ounce; alum, in powder, and flour of sulphur, of each two ounces; molasses, four ounces; mix for one drink.

This must be given in a quart of warm gruel and a wine glassfull of gin added to it. Two or three of these drinks, with bleeding, are in general sufficient to protect them against the future approach of this disease, if given every third morning. By adhering to the treatment as laid down above, the disease may not only be cured, but its ravages may also be prevented.

SECTION VII.

RED WATER AND BLACK WATER.

This disease is common among neat cattle of every description, but more particularly attacks milch cows than any other kind.

The Red Water and Black Water seldom occur separately. The former is considered to be the original disease, and the latter (Black Water) to be occasioned by the retention of part of the blood about the orifice of the leaky vessel, which coagulates and in a short time putrifies, changing to a black color. This is in part washed away every time the beast stales, and constitutes what is termed Black Water.

The origin of this disease may be ascribed to different causes. For instance, the taking of cold, when turned into low pasture grounds in the spring, or to change of pasture, or to the scarcity of water in a dry season, or to the changeable state of the atmosphere. Most or all of these causes may, at times, occasion bloody urine. In some animals it appears to be more hereditary than in others. Some have been known to have been attacked with this complaint once or twice a year for two or three successive years, and at last literally bleed to death, defying all the powers of medicine and change of diet.

It will be difficult to point out the exact seat of this disease, but the following observations will, in some measure, enable the practitioner to form his judgment in this respect.

If the Red Water proceed from any external injury, such as a violent strain across the loins by other beasts jumping on them, or from a severe blow on the part (which brings on an inflammation of the kidneys and the adjacent parts), the treatment must be the same as in cases of Inflammation of the Kidneys, in section 10. But when this disease proceeds from other causes, as already stated, it produces a different effect. An inflammation takes place upon the glands, about the neck of the bladder; hence the small blood vessels become ruptured, and the blood coagulates and lodges in the cavity about the neck of the bladder, and produces the two different kinds above mentioned.

When the change takes place from Red to Black Water, the animal in general stales free from either for several times. In slight cases, where the blood is passed away with the urine, the beast does not appear to be affected by it; if a cow, she holds to her quantity of milk and seems no worse. But when the blood so passed away, is considerable, and continues for a time, it reduces the quantity of milk, and likewise the animal itself to a very low state; and if some powerful remedy be not applied the beast must inevitably sink under the pressure of the disease.

The cure must first be attempted by evacuating the stomach and intestines, for which purpose the following drink will be found suitable:

RECIPE NO. 27.—Take glauber salts, one pound, nitre and cream of tartar, in powder, of each one ounce; ginger, in powder, two ounces; molasses, four ounces; mix for one dose.

Put the articles into a pitcher, pour on them three pints of boiling water, stir the whole and when new-milk warm give the drink to the beast. This contributes powerfully to remove the cause of this disease; if it operate sufficiently it in general cures without any other aid, and if not, it will be necessary to repeat it. The greatest danger which attends the animal in this disease is that of costiveness, or being saped, which the above drink will be found amply sufficient to remove. But if it should not have the desired effect by the time the medicine ceases to operate, it will be necessary to give the following ball:

RECIPE NO. 28.—Take strained turpentine, four ounces; armenian bole, bay berries and red sanders, in powder, of each two ounces; mix them together in a mortar and beat them into a proper consistency for one ball.

Cut this ball into thin slices and dissolve in a quart of gruel or stale milk, over a slow fire; when dissolved and new-milk warm give for one drink. If this ball be given to animals that are inclining to be costive it will increase the danger by reason of its astringent quality; in such case, it will be most advisable to give the purging drink first. As long as the animal does not appear to be inclined to a costive habit of body, the ball may be given every other day for two or three times, and it the beast is not cured in that time it will be proper to have recourse to others of a more powerful nature, to-wit:

RECIPE NO. 29.—Take venice turpentine, four ounces; nitre, bay berries, and armenian bole, in powder, of each two ounces; alum, in powder, four ounces; mix into one ball.

This must be sliced and dissolved as No. 28, and given as there directed. This ball may be repeated every other night the same as the former. This has been known to have had the desired effect after all other means have failed. But if these should fail, it will be necessary to proceed to others, by which a permanent cure may be established. The following drink may be given to great advantage:

RECIPE NO. 30.—Take alum, in powder, four ounces, nitre, and sal prunella, in powder, of each two ounces; prepared steel, in powder, one ounce; molasses, four ounces; mix for one drink.

Put the ingredients into a pitcher and pour upon them a quart of boiling gruel or water, stir well and when new-milk warm add half a pint of vinegar and give it. This may be repeated every other day for three or four times, and if thought proper four tablespoonsfull of spirits of turpentine may be added to the above drink, which will prove a means of forcing it through the uretha and effect a more speedy cure. The following drink has been known to cure this disease after others have fruitlessly been administered:

RECIPE NO. 31.—Take oil of vitrol, half an ounce; tincture of opium, half an ounce; molasses, four ounces; mix and give it in two quarts of warm gruel.

This may be repeated once a day, if found necessary, until a cure be obtained.

There is a great number of other remedies made use of for this complaint, but I have never known any to excel the recipes above given. Some instances have occurred where half a pound of common salt, dissolved in two quarts of sour buttermilk, has completely cured this complaint. The animal ought to be kept from food two hours before any of the preceding drinks or balls are given, and also for one or two hours after.

They seldom require any particular kind of diet, as they are rarely off from their food, except they are attacked with a fever, in which case they are liable to become costive or saped, which is always attended with danger.

SECTION VIII.

DIARRHŒA OR ROTTENNESS.

This disease shows itself, sometimes, by copious stools of a slimy, bilious and black nature; and at other times of a more frothy, greasy and a clay-like nature.

Its cause may arise from various circumstances. The most frequent are the acidity or putrescency of the ailments; acrid bile; pus secreted from abscesses, and carried to the intestines; obstructed perspiration; putrid vapor and the translation of the morbid matter of other diseases to the intestines.

The diarrhœa, when of long standing, is always attended with danger; the frequent or constant motion of the intestines to eject or discharge their contents quickly reduces the animal to a very weak and debilitated state, attended with loss of appetite, in consequence of which the foundation of an incurable disease will be laid if not timely removed. It is supposed to be occasioned by the severe effects of the north and northeasterly winds at the spring of the year. Such winds have very great effect upon the constitution of cattle that have been kept bad during winter in forwarding the disease. The time when cattle are most liable to the diarrhœa is in the spring, especially if the season be wet and cold, grass plentiful and of a sappy nature.

The relaxed powers of animal nature are not able to perform the office of digestion, as they are too apt to overload the stomach. Thus a large quantity of acid is formed in the stomach and conveyed from thence through the intestines, which produces slimy and bilious stools.

Here nature, by her own effort, endeavors to check its progress by an effusion of the saponaceous juice of the bile, which is fixed for the purpose of correcting acidity and forwarding digestion, but in many instances it often fails.

Cows, after calving, are liable to take cold when exposed in damp or wet situations in severe weather, which frequently causes this disease.

The following are the unfavorable symptoms: The animal loses her appetite, the dewlap hangs down and has a flabby appearance;

her dung runs off, with a putrid and offensive smell, and as it falls upon the ground rises up in bubbles; the hair all over the body appears staring. These symptoms indicate but little hopes of a speedy cure.

The animals thus affected should be taken from grass and put into a house or yard, where they can be sheltered from the weather and kept on dry feed, such as good hay, ground oats and barley; add an equal quantity of ground oil cake. A proper quantity should be given them two or three times a day, and if they are much reduced and their appetite is quite gone, a thick gruel may be made of the same and given to the animal three or four times a day. A strict attention to this method of diet will convey a sufficient quantity of nutriment to the animal so as to enable it to undergo the operation of the medicine.

The cure of this disease must first be attempted by evacuating the stomach and intestines of those bilious and slimy excrements that corrode and destroy the mucous lining of those parts. This method may, perhaps, appear inconsistant to some, but its good effect will soon be perceived; it prepares the parts and lays a good foundation on which other medicines can duly operate.

RECIPE NO. 32.—Take salt of tartar, one ounce; ipecacuanha, in powder, one drachm; socotrine aloes, in powder, four drachms; castor oil, four ounces; ginger, in powder, one ounce; molasses, four ounces; mix for one drink.

This drink must be dissolved in a quart of hot gruel and given when new-milk warm. It will be found a mild and valuable purge for removing and carrying off whatever obstructions may have caused this disease.

The strength of the drink may be increased by adding two or three drachms more of aloes, if found necessary. In twenty-four hours, or when the physic has nearly done operating, the following may be administered:

RECIPE NO. 33.—Take prepared chalk, four ounces; bole armenic, and aniseeds, in powder, of each two ounces; ginger, in powder, one ounce; alum, in powder, three ounces; tincture of opium, half an ounce; mix for one drink.

This must be given in a quart of warm gruel, and repeated every other day for three or four or more times. In some cases the alum may be omitted and the same quantity of common salt substituted, and the drink may be given in a quart of warm milk.

This drink above prescribed has cured this disease when little hopes of recovery appeared. In case, however, the above should fail in producing the desired effect, it will be necessary to proceed to others, for which I shall give several different formulæ.

RECIPE NO. 34.—Take castile soap, sliced, two ounces; dissolve it in a quart of warm gruel; then add prepared chalk, four ounces; ginger, in powder, one ounce; rhubarb, in powder, half an ounce; sweet spirits of nitre, one ounce; tincture of opium, half an ounce; mix them in a quart of warm gruel.

This drink may be repeated every other day for some time; or the following, which may be in some cases preferable:

RECIPE NO. 35.—Take prepared oyster shells and prepared chalk, in powder, of each four ounces; ginger and gum kino, in powder, of each one ounce; alum, in powder, two ounces; tincture of opium, half an ounce; mix and give in a quart of warm gruel.

All these different kinds of drinks will be found powerful absorbents, and in most cases well adapted to put a stop to those immoderate fluxes of humors which are continually pouring forth their contents upon the intestines, and which nature appears to be in continual motion to eject by contracting the mouths of those vessels. As soon as the progress of the disease is checked, and the animal begins to recover in strength, the cure may be greatly accelerated by giving the following drink:

REBIPE NO 36.—Take gum kino and Peruvian bark, in powder, of each one ounce; pomegranate shell, in powder, two ounces; tincture of opium, half an ounce; mix for one drink; boil the pomegranate powder in three pints of water, and when new-milk warm add the remainder of the ingredients and give it.

This will be found a most excellent drink in bracing and restoring the relaxed powers of the animal, and likewise in carrying off the remains of the disease. It will be proper to repeat the drink every other day for three or four times.

SECTION IX.

INFLAMMATION OF THE LIVER.

This disease frequently takes place among neat cattle; it does not appear to be confined to any particular part of the liver, but sometimes affects the membranes only, or in its substance, in the concave or the convex side thereof. But, as the treatment in each case is necessarily the same, it will be of no consequence what part is affected.

The liver is of a glandular substance, and the largest to be met with in the animal body; its chief use is to secrete the bile. Inflammation of the liver may proceed from various causes, sometimes external, at other times from internal, but mostly from the latter.

Fat beasts, or such as are in good condition, are the most liable to be attacked with this disease, particularly in hot weather, when over-heated by driving, or from running about in the pasture on very hot days; drinking cold water, or being exposed to sudden cold after the body has been so heated.

Inflammations occasioned by external causes chiefly proceed from other cattle goring them with their horns, or a violent blow or bruise from some other cause.

The symptoms are chiefly as follows: A violent pain and swelling about the short ribs on the right side, attended with difficulty in breathing; loathing of food; great thirst; with a yellowness ex-

tending all over the body and on the white of the eyes; a palpitation or beating of the heart, attended with a strong fever. If the inflammation suppurate and discharge itself into the abdomen, the disease becomes more critical and dangerous; in this state there is little prospect of a recovery. Bleeding will always be found proper at the commencement of this disease; but the greatest relief, in general, proceeds from purgative medicines, such as No. 3 or No. 27, or the following if thought more proper:

RECIPE NO. 37.—Take Barbadoes aloes, one ounce; castor oil, four ounces; rhubarb, in powder, two drachms; castile soap, sliced, one ounce; salt of tartar, half an ounce; ginger and aniseeds, fresh powdered, of each one ounce; molasses, four ounces; mix and give in a quart of warm gruel.

This drink will be found sufficiently strong for a full-grown animal; yet if it does not operate in twelve or fourteen hours, it will be proper to repeat it by giving one-half of the above drink night and morning until a sufficient passage through the intestines be obtained. For if this be neglected, the fever will rapidly increase and carry off the animal in a very short time. If the fever and inflammation still continue, after the bowels have been sufficiently evacuated, it will be proper to repeat the bleeding to the quantity of two quarts or more, and if needful it may be repeated every other day as long as the inflammation continues. Violent purgative medicines should be avoided, yet it will be always requisite to keep the body sufficiently open, after which give the following drink:

RECIPE NO. 38.—Take nitre, in powder, two ounces; castile soap, sliced, one ounce; tartarized antimony, one drachm; salt of tartar, half an ounce; ginger, carraway seeds and aniseeds, in powder, of each one ounce; brown course sugar, two ounces; mix and give in a quart of warm gruel.

It will be proper to repeat this drink once a day for several days, or as long as any symptoms of the disease may continue to appear. If, after all these endeavors, the fever still continues violent, it will be necessary to give the powders, No. 12, as there directed. And afterwards the animal may be restored by giving one of the drinks (No. 14). The diet should be mashes made of scalded bran, with a small quantity of corn and linseed meal mixed in it, or stiff gruel.

By strict attention to this method of treatment a cure in the very worst of cases may be performed.

SECTION X.

INFLAMMATION OF THE KIDNEYS.

This disease is of frequent occurrence among neat cattle, and is often attended with very severe and fatal consequences. Small as the organs of the kidneys are, they are very essential to life and could not be dispensed with. The quantity of blood that passes through them is very great; and whatsoever may hinder or obstruct

the extremities of the arteries, and prevent them from transmitting the fluid to its proper destination, will infallibly bring on this disease.

Inflammation of the kidneys may proceed from a violent blow across the loins, or a sprain in that part; but more frequently from small stones or gravel being lodged within the kidneys; or from violent motion in hard driving in hot and sultry weather; or from any other circumstance that drives the blood too forcibly into the kidneys. The following are the more violent symptoms: A burning heat, attended with great pain in the region of the kidneys, or across the loins, and in general extending on the ureters to the bladder; the heat is very perceptible to the hand, when applied on the part; and, if pressed, the animal will instantly give way; the urine is of a high color and sometimes nearly red, often discharged in small quantities, yet with considerable pain and difficulty; a shivering or a trembling of the whole body; cold and clammy sweats; the extremities, as the ears, horns and feet, are for the most part cold.

The sudden cessation of the nepheitic pains, and the urine dribbling away in small quantities, of a black and fœtid color, are certain signs of approaching mortification.

The symptoms that indicate a favorable termination in this disease are as follows: If the urine becomes high or coffee-colored; is secreted in a much larger quantity than stated before, and at last is copious, thick and mixed with mucus, a gradual relief follows, which always indicates a speedy cure. Bleeding is uniformly necessary at the commencement of this disease, in proportion to the size, strength and condition of the beast; from three to four quarts, or more may be taken the first time.

About two hours after bleeding give the purging drink No. 11 or No. 37. Either of these drinks will be found sufficient to evacuate the intestines, by which the parts will be greatly relieved, and there is no doubt but the inflammation will be considerably checked. It will be necessary afterwards to give the following drink:

RECIPE NO. 39.—Take castile soap, sliced, one ounce; salt of tartar, half an ounce; balsam of copavia, one ounce; oil of juniper, half an ounce; tincture of opium, half an ounce; camphor, two drachms; dissolve it in the oil of juniper and then mix it with the balsam of copabia and the yolk of an egg.

The soap may be dissolved separately in a quart of gruel, and when new-milk warm the other ingredients must be well stirred in and given.

This drink may be repeated every day, or every other day, as necessity may require. Should the inflammation continue it will be proper to repeat the bleeding. As soon as the symptoms begin to abate, the cure may be effected by giving the following drink:

RECIPE NO. 40.—Take nitre, in powder, two ounces; cream of tartar, one ounce; camphor, in powder, two drachms; liquorice powder and honey, of each two ounces; tincture of opium, half an ounce; mix for one drink.

Let all the ingredients be put in a pitcher and a quart of hot gruel poured upon them; keep it covered until new-milk warm and then give the drink. It will be proper to repeat this once a day until the inflammatory symptoms begin to abate, and then every other day till the animal is recovered. Costiveness generally accompanies a disease of this kind, and tends greatly to increase it: whenever it occurs it may be removed by the application of the following clyster, which will lubricate the parts and at the same time act as a fomentation on the part affected:

RECIPE NO. 41.—Take linseed, half a pound: boil it in two quarts of water and strain while hot; then add Glauber salts, four ounces; molasses, four ounces; when new-milk warm inject it and repeat as occasion may require.

If the hand be applied across the loins, and there appear to be an exterior heat attended with pain, which is easily ascertained by pressing the hand on the part affected, rub well with the emolient oils (No. 18) once or twice a day.

SECTION XI.

INFLAMMATION OF THE STOMACH

Is produced from nearly similar causes with the inflammation of the intestines, and in many respects the symptoms are nearly the same. It is likewise difficult to be distinguished from an inflammation in the convex part of the liver. But as the treatment is nearly alike in each case the consequence is not material.

Inflammation in the stomach proceeds from different causes. Neat cattle in general seem to have no bounds; when admitted into a fresh pasture they are too apt to overlay the stomach, by which the powers of digestion are not able to perform their office; they forget to lie down to ruminate or chew their cud, for want of which it frequently undergoes a more severe process of fermentation and heat; this obstructs circulation and is the chief cause of bringing on an inflammation in these parts; it likewise frequently proceeds from the animal drinking too freely of cold water when over-heated and in a state of perspiration, which is thus suddenly obstructed.

In some instances it is caused by the acrimony of the bile, or from some adjacent part that may be inflamed, and at other times it proceeds from taking into the stomach some acrid, stimulating or corrosive poisons and such like.

This disease is very acute, and requires the most prompt and powerful means of relief that can be employed, otherwise it will prove fatal.

The symptoms are as follows: A pungent and fixed pain in the stomach, attended with a burning heat; the breath at times is of so hot a nature as to raise large blisters on the inside of the mouth. The animal appears quite restless and full of anxiety; everything that is swallowed appears to increase the pain, and the stomach resists it with a degree of violence which frequently brings on a pain-

ful cough. The extremities are for the most part cold, and the body is at the same time overspread with a cold and clammy sweat; palpitation of the heart, attended with a difficulty in breathing. These may be said to be the chief symptoms that accompany inflammation of the stomach.

The first thing necessary towards a cure is to bleed plentifully, according to size and strength; if the disease prove obstinate, it will be proper to repeat the bleeding in small quantities every two or three days until the inflammatory symptoms cease. The mashes and water that are given to the beast should be new-milk warm, as anything hotter will tend to increase the inflammation.

The medical treatment must first be to unload ths stomach of its indigested crudities by giving the most cooling and gentle purge that can possibly be prepared, for unless the stomach and intestines be first evacuated there will be but little hopes of a cure. The following will be found adequate to this purpose:

RECIPE No. 42.—Take castor oil, one pound; to be beaten until well incorporated with the yolk of two eggs; then add salt of tartar, half an ounce; molasses or sugar, four ounces; mix in three pints of warm gruel for one drink.

If this drink does not operate or sufficiently work a passage through the intestines in the space of twelve hours, it will be necessary to repeat it by giving one-half of the above drink night and morning until the object be obtained; or, if thought best, give the drink No. 11 instead. In every stage of this disease nothing tends more to give relief than the keeping of the body sufficiently open with gentle purgative medicines. If the fever still continues, or rage with increased violence, it will be proper to give the following fever powders:

RECIPE NO. 43.—Take white antimonial powder, two drachms; camphor, in powder, two drachms; crab's eyes prepared, one ounce; tincture of opium, half an ounce; coarse sugar, two tablespoonsful; mix and give in a quart of warm gruel.

It will be necessary to repeat these powders every morning and evening in cases that appear to be dangerous, but where the symptoms are more favorable once a day will be sufficient. If it should be thought best give the powders (No. 12), which are very excellent in most inflammatory diseases, to be given as there directed. As soon as the symptoms begin to abate and the animal to recover its former strength, the following drink will be found very beneficial in bracing and restoring the relaxed constitution:

RECIPE NO. 44.—Take prepared steel, in powder, half an ounce; Peruvian bark and nitre, in powder, of each one ounce; sweet spirit of nitre and tincture of rhubarb, of each one ounce; mix and give in a quart of warm gruel.

This drink may be repeated every third day for three or four times or longer if thought proper. With care and proper management the animal will soon be restored.

SECTION XII.

COLIC OR GRIPES.

Cows of every age are liable to this disease. It appears to proceed from a spasmodic contraction of some part of the intestines. Almost all pains of the belly go under the denomination of colic, or gripes. It therefore will be necessary to consider them under different heads.

The flatulent, or windy colic, is for the most part occasioned by the animal overloading the stomach with hard, dry and indigestible food, such as bran, chaff or corn; likewise from drinking too much cold water when in a state of perspiration. In the summer it frequently takes place among such cattle as are put into fresh pastures, where they are apt to overlay the stomach with succulent grass. A concoction then takes place, and a quantity of air is formed, which if not speedily removed an acid will be formed that will corrode the stomach or some part of the intestines, and possibly end in an inflammation.

In this case it appears that the animal heat is not sufficient to bring into motion that mass of aliment of fluid which nature requires so as to prevent the circulation from being impeded. The inner surface of the stomach and bowels becomes irritated by their cold or acrid qualities, which cause violent twitching pains and produce so much uneasiness. The animals frequently lie down and rise up on a sudden, and sometimes strike their horns and hind feet against their belly. The pulse seldom appears to be much affected at first; but if the disease continue for any length of time it becomes much quicker and harder than usual. This generally indicates the approach of inflammation, and is accompanied with considerable tension of the belly.

The inflammatory colic for the most part proceeds from the former, and if not speedily relieved must terminate in an inflammation of some important part of the intestines. This disease is in general attended with costiveness, which obstructing the contents of the stomach in some part of the bowels, they in a short time become acrid and viscid, and hence the membranes that line the intestines become inflamed. This is the chief cause of those violent excruciating pains the animal labors under. Neat cattle are also very liable to another kind of costiveness called Fardel Bound; it proceeds from the liquid parts forcing a passage either through the hardened excrements or by their side. Considerable danger attends cattle in this situation; as the deceitful appearances are easily mistaken for purging. When these symptoms of costiveness make their appearance no time should be lost; give the purging drink No. 46 or No. 42, or No. 3 or No. 4 may be given. Should the animal breathe short, and heave in the flanks, attended with a continual fever, this indicates the approach of an inflammation.

If this disease continue for a few days with all the aforesaid symptoms, a gangrene or mortification will ensue which will end in sudden death. This, however, may be prevented by administering proper medicines in time; for, when first attacked with the colic, they seldom require more than some warm, stimulating drink to promote the peristaltic motion of the stomach and intestines.

RECIPE NO. 45.—Take aniseeds, sweet fennel seeds and carraway seeds, in powder, of each two ounces; grains of paradise, in powder, half an ounce; ginger, fresh powdered, one ounce; spirit of turpentine, three tablespoonsfull; tincture of opium, half an ounce; mix these for one drink; add a wine glassfull of gin and give in a quart of warm gruel.

This will be found an excellent drink for removing flatulency and expelling wind, and may be repeated in the course of the day if no feverish symptoms appear. But if the animal begin to swell in the body, without obtaining any relief from the above drink, it will be necessary to take away from three to four quarts of blood. This will check the inflammation. About two hours after bleeding the following purging drink may be given:

RECIPE NO. 46.—Take socotrine aloes, half an ounce; Glauber salts and castor oil, each four ounces; aniseeds, carraway seeds and ginger, fresh powdered, of each one ounce; oil of juniper and tincture of opium, of each half an ounce; dissolve the aloes and salts in a quart of hot gruel or water, and when new-milk warm add molasses, three ounces, and the other ingredients and give it.

This generally operates in about twelve hours; if not it must be repeated, and give one-half of the above drink night and morning until the desired effect be obtained. The quantity of blood to be taken from the animal when physic is to be given in a short time after, should not exceed two-thirds of the usual quantity, otherwise the animal would be reduced too low. The injection of a clyster, twice a day, will greatly assist the medicine in its operation.

RECIPE NO 47.—Take linseed, bruised, four ounces; tobacco, one ounce; common salt, one handfull; molasses, four ounces; boil the two first articles in three quarts of water; strain through a cloth and add the remainder; when new-milk warm inject it up the anus.

Clysters are, in most cases, beneficial; they relax the parts as far as they go, and by softening the fœces, promote evacuation much sooner. Immediate ease frequently succeeds these necessary evacuations; and the animal's appetite may in a short time be restored by good nursing; and a few of the restorative drinks (No. 14 or No. 15) be given as directed.

SECTION XIII.

FOG SICKNESS, HOVEN OR BLOWN.

This is a common complaint amongst neat cattle, and is attended with symptoms of the most distressing nature. It requires speedy relief or a rupture of the stomach or some part of the intestines may be expected to take place, which generally soon terminates the animal's existence. Fog sickness usually proceeds from a voracious and greedy disposition, incident to neat cattle when permitted to satiate

their appetite with food; such as red clover, alfalfa or different kinds of grasses; likewise turnips, potatoes, beets and green corn, and sometimes chaff. The latter are liable to choke the animals and the former to blow them.

This disease, or rather accident, requires no description, as it is well known to most persons who keep cattle. Cows are most subject to be Fog sick, Hoven or Blown in the summer; and in the winter to be choked.

This complaint is generally occasioned by the animal feeding for some time upon rich succulent food, so that the stomach becomes overcharged, and they through their greediness to eat forget to lie down to ruminate or chew their cud. Thus the paunch, or first stomach, is rendered incapable of expelling its contents; a concoction or fermentation takes place in the stomach, by which a large quantity of confined air is formed in the part that extends nearly to the anus, and for want of vent at that part causes the animal to swell even to a state of suffocation, or a rupture of some part of the stomach or intestines ensues. As death is the consequence of this, the greatest caution is necessary in turning cattle into a fresh pasture, where the feed is considerable; nor should they be allowed to remain too long at a time in such pastures before they are removed to a close yard, in order that the organs of rumination and digestion may have time to discharge their functions.

Various expedients are employed for the purpose of affording relief, both with medicine and manual operation. It is a good practice to give such cows as are of a greedy disposition a comfortable drink, viz., No. 1 or No. 2, about an hour before they are turned into a fresh pasture. This will have the desired effect.

As soon as the animal is discovered to be either Hoven or Blown, by eating too much of succulent grasses, give the purging drink No. 3 or No. 4 as there directed; either of these drinks will for the most part check fermentation in the stomach, and in a short time force a passage through the intestines.

When medicine fails to have a speedy effect, recourse must be had to external means by using an instrument constructed as follows: Get a piece of small cane about six feet long, with a round knob of wood properly secured to one end of the cane, then take hold of the horn with one hand and the nostrils with the other; the assistant must take hold of the tongue with one hand, while he pushes the cane down the animal's throat with the other; as soon as the knob of wood enters the stomach a large quantity of fetid air will be discharged, which will easily be discerned by the animal's body sinking to its former state again; and nature taking its regular course the animal will soon be restored.

Paunching is another method sometimes resorted to in dangerous cases. The operation is performed in the following manner: Take a sharp pen-knife and gently introduce it into the paunch between the haunch bone and the last rib on the left side. This will instantly give vent to a large quantity of fetid air; a small tube of a sufficient length may then be introduced into the wound and remain until the air is sufficiently evacuated; afterwards take out the tube and place over the orifice a plaister of pitch. Wounds of this kind are seldom attended with danger. After the wind is expelled,

and the body has been reduced to its natural state, let the following cordial drink be given:

RECIPE NO. 48.—Take aniseeds, diapente and elecampane, in powder, of each two ounces; tincture of rhubarb, two ounces; sweet spirits of nitre, one ounce; molasses, four ounces; mix and give in a quart of warm gruel.

This drink may be repeated every other day for two or three times; or the following may be given instead·

RECIPE NO. 49.—Take aniseeds, grains of paradise and cummin seeds, powdered, each two ounces; spirits of turpentine, two tablespoonsful; sweet spirits of nitre, one ounce; molasses, two ounces; mix and give in a quart of warm gruel.

This drink may be repeated every day for two or three times.

SECTION XIV.

STAGGERS, VERTIGO OR SWIMMING IN THE HEAD.

Neat cattle are subject to this disease, which is generally known by some of the above-mentioned names. The seat of this complaint appears to be in the head, although it may proceed from the stomach, and this is not probable.

It proceeds from a large quantity of phlegmatic humors pressing upon the brain and optic nerves, which cause the animal to have a wavering and staggering motion of the body.

The symptoms are attended with heaviness and dullness of the whole frame, a constant disposition to sleep, which is manifested by the animal resting its head upon any convenient place. If this disease be not checked in its infancy by bleeding, evacuation and proper management, it will probably terminate in an inflammation of the brain or on some other part of the body.

This disease mostly attacks animals that have been kept in a state of poverty and starvation during the winter, and which in the spring have been put into a good fresh pasture; hence is produced a redundancy of blood and other fluids pressing upon the contracted vessels, while the animal occonomy on the other hand, is using its utmost endeavor to restore reduced nature to its original state. If it is not checked in the manner as stated before, inflammation in all probability must take place, in which case the animal is attended with all the symptoms of one that is mad.

The cure must first be attempted by taking from two to three quarts of blood from the animal, according to size and strength; two or three hours after give one of the purging drinks, No. 3 or No. 4, or if thought best No. 10. Any of these are generally sufficient to purge an animal; but if it should not operate in about sixteen hours give one-half of either of the aforesaid drinks every twelve hours until the desired effect be obtained. Purging is very necessary in this disease, as well as in all others of an inflammatory

kind, for otherwise it will be impossible to check its progress; and as soon as this is effected the following drink should be given:

RECIPE NO. 50.—Take tartarized antimony, one drachm; volatile salt of ammonia and camphor, in powder, each two drachms; nitre and cream of tartar, each one ounce; molasses, four ounces; mix in a quart of hot gruel or water, and give when new-milk warm for one drink.

It will be necessary to repeat this drink twice a day until the symptoms begin to abate; afterwards once a day will be sufficient. But so long as the fever continues to be attended with raving and delirious symptoms, it will be proper to take from one to two or three quarts of blood from the animal every two or three days. The keeping of the body sufficiently open with purgative medicines, bleeding and administering the above drink according to instructions, there is not much doubt but what it will prove sufficient to perform a cure. If the disease continue long, the following blistering ointment may be well rubbed on the poll of the head and on each side of the neck:

RECIPE NO. 51.—Take yellow Basilicon ointment, three ounces; spirits of turpentine, one ounce; Spanish flies, powdered, half an ounce; mix them well together.

It will be proper to repeat this blister once a day for several days, and if it take proper effect it will generally give relief to the parts effected. When the blister has ceased to discharge the part may be rubbed with Elder or Marsh-mallow ointment once a day for two or three times, and after the symptoms are abated the animal may be restored by giving the drink No. 14 or No. 15 as there directed.

SECTION XV.

THE MILK FEVER.

This is a disease peculiar to cows in good condition at the time of calving; when young or old, all are liable to be attacked by it. Whenever it takes place it is distressing to the animal, as well as troublesome to the owner; they seldom or ever are able to rise in less than two or three days after. The puerperal, or milk fever, is most frequent during the hot summer weather. The cows most liable to this fever have large udders that are full of milk for several days before calving, and often very much inflamed and swelled.

The best method of preventing this disease is as follows: Take four or five quarts of blood from the animal, about eight or ten days before her time of calving. Let the blood be taken away at night, and the animal kept in a yard till next morning. The following drink should be given before being turned out to grass, as it will check the overflow of milk and brace up the relaxed vessels:

RECIPE NO. 52.—Take alum in powder, two ounces; nitre and cream of tartar, each one ounce; molasses, four ounces; mix in a quart of boiling waler or gruel and give when milk warm.

Two hours after the animal may be turned out. This drink may be repeated if thought necessary. If the cow's udder is not sufficiently relieved by bleeding and the aforesaid drink, the part must be well rubbed with the following repellent medicine:

RECIPE NO. 53.—Take Goulard extract, four ounces; camphorated spirits of wine, eight ounces; white vitriol, one ounce; rain water, that has been boiled, one quart; mix and keep in a bottle for use.

The udder and all the vessels about it that appear to be swollen or inflamed must be well rubbed with this mixture two or three times a day. If the inflammation still continues to increase, it will be proper to milk her once or twice a day for a few days before calving. When this is the case the above lotion may be omitted, and the following liniment applied each time after milking:

RECIPE NO. 54.—Take Elder ointment, Marsh-mallow ointment and soft soap, each four ounces; spirits of turpentine, two ounces; oil of origanum, half an ounce; mix the whole well together and keep for use.

This will greatly assist in removing the inflammation and in assuaging the tumefied parts, as well as restore the milky secretions to their proper state. Cows thus afflicted before calving require great care and attention at the time, by which the disease may in a measure be prevented. The Milk Fever usually attacks the cow on the second, third or fourth day after calving. It has been known to attack some in a few hours after. Its symptoms correspond with those of many other fevers. A cold shivering fit comes on, accompanied with a throbbing and great sickness; the pulse is quick, and the tongue parching dry. The animal becomes very restless, attended with a remarkable depression of spirits and loss of strength; the extremities are for the most part cold. As soon as this disease takes place it will be best to attempt to remove it by giving the following drink:

RECIPE NO. 55.—Take Peruvian bark, powdered, one ounce; ginger and grains of paradise, in powder, each half an ounce; aniseeds, carraway seeds and sweet fennel seeds, powdered, each two ounces; salt of tartar, half an ounce; molasses, four ounces; mix in a quart of boiling water; add a gill of gin.

If the fever make but little progress, and the cow appears brisk and lively, eats her food moderately well, and has her evacuations nearly regular, it will be proper to repeat this drink once a day or every other day for two or three times. It promotes the milky secretions by destroying the acidity which has a tendency to choke up the lacteal vessels and bring on an inflammation in the udder. If the fever appear gradually to increase from the first attack, care must be taken or the animal will soon be in a costive state, saped or fardel-bound (as it is called); these are synonymous names relating

to the same thing, and may be better understood by one than the other. If, therefore, the fever continue to increase after giving the above drink, her body must be kept open by giving one of the following drinks. If the fever attacks the same day as she calves, and it is necessary to give the physic give her No. 42 as there directed. But if on the third day give her No. 10 as there directed; and if on the fourth or fifth day give No. 3 or No. 4 as directed. As soon as any of the preceding drinks have sufficiently evacuated the bowels, and nearly ceased to operate, the drink No. 55 may be repeated; or, if the fever be considerably abated, give No. 1 or No. 2 instead, as there directed. It will be proper to notice that in every stage of this disease the body should be kept open with the purgative medicines before mentioned, and they may be greatly assisted by injecting the following clyster:

RECIPE NO 56.—Take linseed meal, eight ounces; boil it in three quarts of water; strain and add salt of tartar, one ounce; sweet oil, four ounces; molasses, four ounces; mix and when milk warm inject.

Cows afflicted with Milk Fever require great care and good nursing. They are sometimes unable to take a sufficient quantity of nourishment themselves; it therefore becomes necessary to give them two or three quarts of gruel of linseed meal and oatmeal, mixed, three or four times a day.

SECTION XVI.

TO EXTRACT THE PLACENTA, OR THE CLEANSING FROM THE COW AFTER CALVING.

The extracting of the secundines or cleansing from the cow requires care and proper management; least violence should be used in drawing the navel string too strongly. If the cow has gone her natural or full time there is not the least difficulty or danger in taking it from her by manual operation, provided she be put in a proper position, otherwise it will be impossible to take it from her without tearing.

Such persons as wish to remove the placenta, and to give the cow that ease which nature requires after pains of this kind, should observe the following rules:

First.—Take the cow to a proper shed or house, well littered down with clean straw, as soon as possible after she has calved; care should be taken that her fore parts stand on rising ground. This will greatly assist the operator. Some cows will part with their cleansing with a little assistance while standing; others will much more easily when laid down. In either case the operator must take a cloth, lay hold of the umbilical cord or cleansing, and every time she attempts to strain draw it gently forward until it gets dislodged from its bed, then it generally comes all at once.

There is but little chance of taking the cleansing properly away, except every attention be paid to her throes or after-pains. Those

cows which have slinked or slipped their calves before the regular time of gestation (and likewise such as have gone their full time, where the cleansing has been neglected to be taken away), in a few days become so tender that the least pressure upon it will cause it to tear. In these cases it will be proper to give her two or three of the following drinks. And it will be proper to give this drink to cows of all descriptions after calving:

RECIPE NO. 57.—Take spermaceti, two ounces; balsam of copaiba, one ounce; the yolk of an egg; beat them together in a mortar until well incorporated; add Irish slate, in fine powder, two ounces; aniseeds, grains of paradise and carraway seeds, fresh powdered, each one ounce; molasses, four ounces; mix in a quart of boiling water and add a wine glassfull of gin and give when milk warm.

This drink will be beneficial in cleansing and healing those vessels which have become lacerated by the divulsion of the placenta from the uterus. As soon as the flux or discharge cease, and any deficiency is found in the milky secretions, it will be best to give a few of the drinks No. 1 or No. 2, as there directed, and add four ounces of fresh butter or sweet oil, which will be found most excellent for all cows after calving, especially young heifers.

SECTION XVII.

HOW TO EXTRACT A CALF WHEN IT PRESENTS ITSELF IN A WRONG POSITION.

Persons who have anything to do with cows ought to be well acquainted with the manner in which a calf should present itself when in a natural or proper position.

All those positions are called unnatural in which the calf presents itself otherwise than with its head and fore feet first and its back towards the cow's back. It is well known to all who have the management of cows, that calves are very commonly presented in a variety of different postures, for which no just reason can be assigned. And whenever they present themselves in a wrong posture, both cow and calf are in danger, and that more or less according to the ability of the person employed to give the necessary assistance.

In the first place, then, after the waters are broke, and only the head and one foot present themselves, you must take hold of the calf's head and wait till the throes are off, then gently push it back and rectify the other foot, after which it may be extracted without danger.

SECONDLY.—If the head only presents itself and both feet are left behind, the head must be pushed back gently as soon as her throes are off and the feet properly placed with the utmost care, so as not to wound or tear the uterus.

THIRDLY.—If all the four feet are turned where the back ought to be, towards the top of the uterus, in this situation it will be impossible to extract the fœtus until it be put in a proper position. In

operations of this kind everything depends upon the management of the person employed in putting the animal in a proper position. The hind parts must be raised with straw or other substance that will make it easy to lie on. By this means the person will be very much assisted in putting the calf in a suitable posture for extraction; afterwards wait until her throes return, and then give nature your best assistance.

FOURTHLY.—It sometimes happens that the hind legs make their appearance first; in this case it will be found better to extract them in that position than attempt to turn them.

FIFTHLY.—Instances frequently occur of calves being dropsical in the head; this may be known by the largeness of the latter, in which case the other parts are generally small and wasted away. Under these circumstances, if the calf cannot be extracted in the usual way, the best method will be to fix a strong cord around each foot, or upon the upper or lower jaw, and then to assist the cow every time nature attempts to do its office. If, however, the calf be dead it may be cut away with a proper knife. This requires a person of skill and experience, otherwise the life of the cow is in great danger.

SIXTHLY.—Frequent instances have also occurred where the shoulder has presented itself first at the mouth of the uterus; this is a difficult case and requires the hand to be introduced in search for the fore legs; or, if thought more proper, the hind legs may be brought forward; this must be left to the judgment of the person employed.

SEVENTHLY.—It sometimes happens in cases where the calf is dead or dropsical in the head, that instruments are necessary to be used. When this is the case the cow is generally reduced to a weak, low and emaciated state. The instrument may be made of a small rod of iron, or very strong wire, with a small hook at the end. This hook must be placed in the operator's hand as not to endanger the uterus when introduced. It must be then fixed in some part of the calf's head, as the sockets of the eyes, in the mouth, or in any other part about the head, as may appear most convenient at the time. Sometimes the fœtus is so enlarged, and the womb so contracted, as not to admit of extraction. It will then be necessary to take it away by pieces. This may be done, but it requires a man well skilled in this practice. The knife must be made for the purpose, and the blade so placed in the hand, with the fore finger over the point, to protect the uterus from being wounded. In all cases where the cow has been badly handled, and the inner parts much bruised, the following mixture will be found of infinite use in warming, healing and stimulating the injured parts.

RECIPE NO. 58.—Take compound tincture of myrrh and camphorated spirit of wine, of each four ounces; Barbadoes tar and olive oil, of each three ounces; sweet spirit of nitre and tincture of opium, of each two ounces; molasses, four ounces; mix all together and bottle for use.

The method of using these oils is as follows: Take as much as you can hold in the hollow of the hand, then introduce it up the matrix or womb; or saturate a sponge with the medicine and in-

troduce as above, pressed well out with the hand; or it may be injected up the uterus with a syringe, but the two former methods are much the best.

As soon as the operation is over, give her the drink No. 57 as there directed. It will be necessary to repeat them for three or four times, once a day at least. Her body likewise should be kept open with mashes of scalded bran, to which a small quantity of groand oats, barley or corn may be added. Good nursing and proper management will soon restore the animal.

SECTION XVIII.

THE FALLING DOWN OF THE CALF BED.

This is a complaint, or rather an accident, of frequent occurrence among old cows at the time of calving, and proceeds from the violent motions that attend the extracting of the calf, and likewise from the relaxation of the ligaments of the uterus. Some cows are more subject to the falling down of the calf bed than others; this appears in a great measure to proceed from the shape and make of the cow in those parts. The cows most liable to this complaint are those that rise considerably on the small of the back, in the form of a curve, and begin to lower towards the tail; the hips, rump and surloin are for the most part straight. Cows of this form denote great weakness in those parts, and without care and proper management at the time of calving are liable to have this complaint.

The observance of the following rules may prove a means of preventing it:

First.—If they are kept in a cow house at the time of calving the floor should be on a level; it would be to the advantage of some cows to stand higher behind than before for a considerable time before calving, as it would enable them when down to rise with more ease and with less danger of straining themselves.

Second.—If the falling down of the calf bed be suspected the cow should be carefully watched at the time of calving, and as soon as that takes place care should be taken to have in readiness a sheet to put underneath and around the calf bed, if she lie down, or to support it if standing, and to protect it from dirt, as also from the effects of air.

Then let the operator take away the placenta, or cleansing, in the gentlest possible manner, lest an effusion of blood take place and endanger the life of the cow. Afterwards bathe and wash all the parts that hang down from the uterus with the following lotion:

RECIPE NO. 59.—Take rectified spirits of wine, eight ounces; camphor, sliced, one ounce; dissolve the camphor in the spirits; then add Goulard's water, four ounces; rain water, one quart; mix all together and use milk warm.

As soon as the parts have been well washed or fomented with this lotion, her hind parts must be raised, and the person's hand well rubbed with linseed oil. Then endeavor to find the middle part of

the calf bed, and by a gentle pressure of the hand it may in general be replaced with ease and safety.

Sometimes it is with difficulty prevented from falling out a second time; when this happens, take a small wire and pass it through the lips of the womb, and bend each end of the wire in order to prevent it from falling out. This may be permitted to remain there several days, or until such time as the calf bed gets properly fixed in its former position. This will easily be known by the cow having no more symptoms to strain herself, after which the wire may be taken away.

As soon as the calf bed is properly replaced and made secure, it will be necessary to give her the following drink to remove the violent after-pains. This drink should be repeated once a day, or every other day, for two or three times. Warm mashes and proper management must strictly be attended to.

RECIPE NO. 60.—Take Peruvian bark, white ginger and prepared chalk, powdered, each one ounce; aniseeds, fresh powdered, four ounces; tincture of opium, half an ounce; molasses, four ounces; mix in a quart of boiling water or gruel and give when milk warm.

SECTION XIX.

LOCKED JAW.

This disease is not so common amongst neat cattle as horses. Whenever its takes place it generally begins with a sudden stagnation of the whole system; every muscle appears seized at once, and the jaws are so fast closed as very often to require an instrument to force them open at the time of giving medicines. The first thing necessary towards a cure must be to bleed, taking away three, four or five quarts, according to the animal's size and strength, after which give the following drink:

RECIPE NO. 61.—Take opium, two drachms; assafœtida, cut small, one ounce; put them in a mortar and gradually add a pint of boiling water; keep stirring until all be dissolved; then add spirit of hartshorn, two ounces; ginger, in powder, one ounce; cayenne pepper, half an ounce; molasses, four ounces; mix and give in a pint of warm gruel.

It will be proper to repeat this drink once or twice a day as long as the symptoms remain violent. If this disease attack the animal in the winter two or three pails of warm water may be thrown upon it, and if in the summer cold water may be used. Afterwards let two persons, one on each side, rub the animal dry with straw or a brush. This well applied over the body, legs and ears, will often give relief. After which cover the animal with a blanket, as warmth in this disease is always beneficial. Locked jaws, or convulsions of this kind, most frequently proceed from wounds in different parts of the body, where a nerve or tendon is injured. Other causes, however, produce convulsions, as the taking of poison, or

licking up any poisonous herbs or insects; these irritate the stomach and intestines, by which the convulsions not only attack particular parts of the body, but often extend over the whole animal frame. All such parts as are most contracted should be well rubbed two or three times a day with the liniment No. 13, which will be found to have a powerful effect in removing spasms in all parts of the body. If the symptoms are not removed in twenty-four hours the animal must be treated in the same manner as for the Inflammatory Fever, section 11, this treatise.

SECTION XX.

UTILITY OF PURGING MEDICINES IN DISEASES INCIDENT TO NEAT CATTLE.

Neat cattle are subject to a variety of diseases as well as the horse, though not to the same extent as the latter; this may in a measure be owing to the labor and fatigue which the one undergoes more than the other. Physic for cattle is one of the principal remedies towards curing most fevers and inflammatory diseases, when properly administered. Nevertheless, it is seldom advisable to give physic to a beast unless it labor under some disease.

Neat cattle are by nature of a greedy and ravenous disposition, whose appetite is unbounded and hardly ever satisfied. Milch cows in particular are of this description; for, if feeding on succulent grasses, or other food agreeable to their palate, they very often continue until they are in danger of suffocation. Thus the powers of digestion become over-burdened, and a fever or other inflammatory disease is frequently induced, in which cases purgative medicines alone can give relief.

As fevers are in general accompanied with inflammation, nothing tends more to give relief than purgative or opening medicines; they unload the stomach and intestines of a mass of indigested crudities which so rapidly increase all diseases of this kind.

External inflammation proceeds from outward causes, such as wounds, according to their situation and extent; bruises and other accidents they are liable to, on different parts of the body. All these produce inflammation in part according to its severity, which affects the whole system and very often bring on a fever; and, if the latter be not timely removed by proper purgative medicines, the animal may die.

The greatest danger attendant on wounds is when the inflammation exceeds its natural bounds, and instead of generating pus a gangrene takes place, which if not timely checked will disseminate itself through the whole system. In this case the animal will appear greatly dejected in spirits, with wildness in the eyes, the pulse being quick, low and weak. For the proper treatment in this case see section 26 on wounds.

After a gangrene or mortification once takes place, and enters the system, little can be expected from the aid of physic. In all kinds of fevers, whether symptomatic, local or of primary affection, pur-

gative medicines are of great importance, and without a free passage through the intestines there is but little hope of a recovery. In different parts of this treatise a great variety of purging drinks will be found suitable for every disease; the reader is referred to those marked with the following numbers: Nos. 3, 4, 10, 11, 20, 27, 32, 37, 42 and 46. The two first numbers and number eleven are the ones mostly used.

All these drinks are calculated for a full grown animal. The remainder of the purging drinks will be found under the respective diseases to which they belong.

SECTION XXI.

THE HOOSE OR COUGH.

Diseases of this kind are very troublesome, as well as distressing to the animal. Cows and young cattle are most liable to complaints of this nature.

The Hoose or Cough proceeds from taking cold, either after calving or from being kept in too warm a place, and then exposed to cold and wet weather; which, producing an overflow of extraneous matter in the throat, causes a continual tickling motion in that part.

The symptoms are a shortness of breath; a continual motion to cough, attended with great difficulty in respiration, which seems to press hard upon the diaphragm and abdominal muscles. Without speedy relief it may bring on some local complaint, and terminate in fever or an inflammation of the lungs. The following drink will be found beneficial in removing diseases of this kind:

RECIPE NO. 62.—Take balsam of sulphur, two ounces; Barbadoes tar, one ounce; the yolks of two eggs, beat all together until well incorporated; then add ginger, aniseeds, cummin seeds, elecampane root, grains of paradise and liquorice root, each powdered, one ounce; salt of tartar, half an ounce; honey, four ounces; mix all together in a quart of hot water or gruel; add a gill of gin and give when milk warm.

Repeat this drink every other day, or every third day, for three or four times. If this is given at the commencement of the disease one or two drinks will be found sufficient to remove it.

When this disease is of long standing it can seldom be removed without first giving a purging drink, as No. 3 or 4, and in some cases No. 10 will be preferable. After any of these drinks have been given, and have ceased to operate, give the animal the above drink and repeat as directed. By this treatment, together with good mashes, warm water and good care, the animal will soon be restored, or if thought best the restorative drink No. 15 may be given as directed.

SECTION XXII.

RHEUMATISM OR THE JOINT FELON.

The word Felon is of frequent occurrence; it is applied to diseases proceeding from cold, and is variously called as Cold, Felon, Joint Felon and Chine Felon.

This is a disease of the joints, and chiefly affects milch cows and young cattle in the spring; it is generally occasioned by the animals being kept bad during the winter, and being in the spring exposed to cold winds and wet weather.

The following are the symptoms: The animals for the first two or three days appear stiff in the joints; afterwards they begin to swell, yet there is no appearance of inflammation; but a cold phlegmatic tumor arises in the joints, accompanied with a stiffness that frequently extends all over the body to such a degree that the animals are unable to rise without some assistance. Cattle laboring under this disease suffer very much from the severe pains in the parts, as well as from listlessness and inability to stir. As soon as this disease makes its appearance the animal must be put in a warm place, as warmth very much assists nature, and at the same time promotes the effects of medicine. The joints and all the afflicted parts must be well rubbed with the following mixture:

RECIPE NO. 63.—Take neatsfoot oil, eight ounces; spirits of turpentine, four ounces; spirit of sal-ammoniac, four ounces; camphorated spirit of wine, six ounces; oil of origanum, two ounces; tincture of opium, two ounces; mix and bottle for use.

These oils must be well rubbed in on the joints once or twice a day. There is seldom any fever in this disease, except that of a nervous kind; the whole animal frame appears to be affected with a sluggish disposition and a want of heat; this is Rheumatism or Joint Felon.

The method of cure consists in giving fresh life and action to the animal and to revive nature. The following drink should be given, which gives speedy relief in complaints of this kind:

RECIPE NO. 64.—Take gum guaiacum, in powder, one ounce; Peruvian bark, in powder, one ounce; aniseeds, carraway seeds and grains of paradise, fresh powdered, each two ounces; camphor, powdered, with a few drops of spirits of wine; molasses, four ounces; mix in a quart of boiling water or gruel. The gum guaiacum must be kept out until milk warm and then added.

It will generally be found necessary to repeat this drink every other day for a few times. At the commencement of the disease it will be easy to remove by giving two or three of the cordial drinks No. 1 or No. 2, as there directed. In some instances this may change to the acute or inflammatory rheumatism, which is attended with a fever, pain and swelling in the joints. When this happens it will be necessary to keep the body open by giving one of the purging drinks No. 3 or 4, and if necessary repeat it.

SECTION XXIII.

POISONS.

Poisons may be considered under two heads, the one external, the other internal. We shall in this section confine our attention to the latter.

They proceed from different causes, such as eating of some deleterios herbs, or the drinking of stagnated waters. But, whether the animal have taken poison by eating or drinking, the symptoms are a violent pain and heat at the stomach; the body frequently swells to a prodigious size, attended with giddiness and stupidity. From whatever source the poison may have been taken, if allowed to remain in the stomach, and no attempt made to remove it, it generally proves fatal in a short time. Animals, when once attacked with poison, require speedy relief; if they begin to swell let a penknife be introduced (between the haunch bone and the last rib on the left side) into the paunch. This will instantly give vent to the foul air and very often afford speedy relief, particularly if the poison proceeds from vegetables. As soon as possible after any animal is discovered to be in this state give the drink No. 42 as directed, or if more handy No. 3 or 4 may be given. Either of these will correct the acrimony and carry it off by stool. After some one of the aforesaid drinks has been given it will be found necessary to administer the following in order to destroy the effects of the poison and to assist the purging drink in forcing a passage through the intestines:

RECIPE NO. 65.—Take salt of tartar, one ounce; castor oil or olive oil, four ounces; tincture of opium, half an ounce; mix in a quart of warm gruel; to be repeated twice a day until the animal be relieved.

If the animal be in good condition three quarts of blood may be taken away. By strict attention to the above treatment there remains but little doubt of a speedy cure, which may be assisted by giving a few of the cordial drinks No. 1 or 2.

SECTION XXIV.

THE BITE OF VENOMOUS REPTILES.

Neat cattle are more liable to be stung by these reptiles than any other of the domestic animals. Instances have been known where the tongue of the beast has been stung while grazing that have proved fatal. Snakes seldom attack cattle except when disturbed by them when grazing; this is the chief cause why so many are bitten about the head and feet. The stings of the hornet, wasp or bee are attended with considerable pain and inflammation, and require a treatment similar to the former. The following liniment will be found a powerful remedy in checking the progress of the poison:

RECIPE NO. 66.—Take olive oil, half a pint; strong spirit of hartshorn, four ounces; opodeldoc, six ounces; spirit of turpentine, four ounces; tincture of opium, four ounces; mix and put in a bottle for use.

Let this linament be well rubbed on the part affected two or three times a day until the swelling and inflammation abate. In some cases that are more dangerous the parts affected, especially those about the head, should be fomented with the following preparation:

RECIPE NO. 67.—Take white poppy heads, bruised, half a pound; marsh-mallow roots, one handfull; plantain leaves, one handfull; wormwood tops, one handfull; bruise them small and boil them in two gallons of beer dregs.

Foment the parts affected two or three times a day; after each time rub the liniment well in. If any feverish symptoms should appear (which frequently happen during the hot weather) it will be proper to take from three to four quarts of blood, and in two or three hours after give the purging drink No. 3 or 4, as there directed.

SECTION XXV.

THE DOWNFALL IN THE UDDER.

This is a disease of the utmost consequence to the owners of cows. Young cows in high condition are the most liable to it, especially at the time of calving. Such as are more aged are the most subject to it during hot and sultry weather.

Cows of a gross habit of body, when overheated, or when they have taken cold, are very liable to it at all seasons. This disorder makes its appearance in an inflammatory tumor, collected from a gross habit of body and deposited upon some part of the lacteal vessels, where its presence is quickly discernable by lessening the quantity of milk and changing it to a bloody and corrupt appearance. At other times the milk or corruption is totally stopped and the tumor gradually increases to a state of suppuration. When this is the case it must be opened with a lancet.

In some instances it may be found necessary to amputate or cut off the whole of the udder.

When this is needful it requires a person of skill to undertake an operation of this kind. The bleeding of these wounds must be stopped by applying the styptic powder No. 78, section 26, which may if necessary be supported with a proper bandage across the loins; and after the blood is stopped dress the wound with proper digestives. (See section 26 on wounds.) These tumors have been known to settle down upon the hock, fetlock or in the foot, and there discharge as other wounds.

It will, however, be of the greatest benefit to the owner to prevent this disease taking place, if possible; for, if permitted to proceed to the state above described, the loss of time and trouble would be considerable. It will, therefore, be necessary as soon as the downfall is first discovered, if the animal be in good condition, three to five quarts of blood may be taken, according to size and strength. If bled at night, next morning give the purging drink No. 3 or 4, as there directed; it should operate in about twelve hours, if not, it should be repeated. By these means the inflammation will soon

disappear. The udder should be rubbed with the following liniment, which will be beneficial:

RECIPE NO. 68.—Take soft soap, half a pound; oil of bays, eight ounces; spirit of turpentine, eight ounces; camphorated spirit of wine, four ounces; mix well together and bottle for use.

The parts affected must be well rubbed with the mixture night and morning after the cow has been milked; and, if very bad, she may be milked in the middle of the day, and her udder well bathed with cold water. By frequent milking and the application of the liniment the inflammation will be removed in a few days. After the purging drink has ceased to operate the following drink should be given:

RECIPE NO. 69.—Take aniseeds, carraway seeds and tumeric, fresh powdered, each one ounce; juniper berries and nitre, in powder, each two ounces; resin, in powder, four ounces; spirit of turpentine, one ounce; molasses, four ounces; mix in a quart of gruel or beer.

This drink should be repeated every third day for three times, or oftener if necessary, or the following may be given:

RECIPE NO. 70.—Take nitre, two ounces; alum, in powder, four ounces; dissolve them in a quart of boiling water or gruel; when cold add yellow resin, in powder, six ounces; juniper berries and ginger, in powder, each two ounces; mix all together and give for one drink.

This should be repeated every third day the same as the former; three or four ounces of molasses may be added.

These are excellent drinks for curing the downfall in the udder; and in all slight cases one is in general sufficient to cure it. This disease or complaint is chiefly known under the name of Sore Udders.

SECTION XXVI.

WOUNDS.

Wounds are common to neat cattle as well as others, and may be defined to be a division or separation of some of the parts of the body; and it is of great importance to know how to treat them in all their different situations in the body, as the management must vary according to the part where the wound is situated, and the circumstances under which it takes place. The animal's constitution and habit of body must also be considered, as well as the immediate structure of the divided substance; and whether the wound be made with a sharp instrument or a blunt one; if with the former, and the wound be not considerable, it will be advisable to attempt a union by the first intention, which may be performed in the following manner:

First cleanse the wound from all dirt and extraneous matter, then pour in a sufficient quantity of the tincture of benzoin and

bring the edges of the wound together and close it neatly with a proper suture, as follows: Take a flat crooked needle and a thin white leather cord well tallowed, if silk or thread be used they should be doubled several times, or they may cut themselves out, but white leather is preferable. Every stitch across the wound should be tied and one inch be allowed between every stitch; this will generally be found sufficient for most purposes. When the parts are properly closed take some lint or tow and soak it in the tincture of benzoin and apply it over the wound, then secure it on well with a bandage. The bandage should be taken off once a day and fresh soaked lint applied and secured as before.

Wounds that are in a fleshy part, deep and much bruised, require a different treatment. The inflammation is often great, in which the constitution appears to sympathise; the pulse is attended with hardness, and feverish symptoms begin to appear. Unless a favorable turn takes place gangrene will ensue, which indicates an approaching mortification, and if it be not timely checked death will come.

In cases so desperate every means must be used to support the animal, and to check the gangrenous serum, in order that suppuration may be prompted; this may be attempted in the following manner:

First examine the wound with a proper probe or a candle may be used. Then take some finely powdered nitre and sprinkle it over the wound, and then dress the wound with the following oils:

RECIPE NO. 71.—Take linseed oil, one pint; put it in a vessel that will hold three pints; then add by a little at a time two ounces of oil of vitriol, constantly stirring until united; add spirit of turpentine, half a pint, by a little at a time and keep stirring until it is well united. By this method they will be properly mixed.

Pour a sufficient quantity into the wound and see that it reaches all parts of it.

When this is not practicable, lint or tow should be well saturated with the oils and introduced to the bottom with a probe. The lint must be long enough so as to admit of one end hanging out, by which it may be taken out and fresh oils put in. These oils warm and stimulate the injured part and stop gangrene to which wounds of this nature are liable. Oils so powerful as these seldom require to be used more than once or twice, and that chiefly in wounds that are deep and much bruised, where there is some tendency to gangrene.

Such wounds as have been neglected at first, and which have assumed a gangrenous disposition, should be dressed with oil of vitriol by dipping a skewer in it and applying it all over the wound for several times. Immediately after using either of the above, the wound must be dressed with the following ointment:

RECIPE NO. 72.—Take yellow basilicon ointment, half a pound; black pitch, strained turpentine, tar and linseed oil, each four ounces; melt them all together; then add spirit of turpentine, four ounces; mix and keep in a pot for use.

In using this ointment care should be taken that it penetrate to the bottom of the wound, which may be done by putting the animal in a proper position. Then take some of the ointment and melt it and when milk warm pour it into the wound; then cover it with a pledget of tow dipped in the same and secure it in place. The wound should be dressed once a day, every other day, or every third day, as may be thought necessary. If the inflammation and swelling be considerable it should be fomented (after the wound has been dressed) with the following fomentation:

RECIPE NO. 73.—Take camomile flowers, four ounces; white poppy heads, one dozen; linseed, bruised, half a pound; marsh-mallow roots, bruised, one handfull; elder leaves, bruised, one handfull; boil them in two gallons of beer dregs.

Foment all the parts affected two or three times a day with hot flannels, well wrung out of the above fomentation; after each time the wound and all about it should be well rubbed with the following liniment:

RECIPE NO. 74.—Take oil of bays, four ounces; Marsh-mallow ointment, four ounces; Elder ointment, four ounces; camphor, one ounce, dissolved in four ounces of spirit of turpentine, by rubbing in a mortar; then mix the whole together and keep in a pot for use well tied down.

This liniment will be found excellent for softening all kinds of hard tumors about wounds and removing the inflammation. If strict attention be paid to the above method of application, the wounds (though ever so bad) may in a short time be brought to a state of suppuration, by which the swelling and inflammation will soon disappear; and the bottom of the wound will begin to heal and fill up with granulations of flesh as the discharge diminishes; in cases of this kind it frequently happens that these granulations become too luxuriant and require the application of medicines to keep them down.

Proud flesh in recent wounds differs in general from that in old wounds; the former may easily be kept down with the following powders, whilst the latter will require much stronger caustic medicines:

RECIPE NO. 75.—Take resin, in powder, two ounces; bole armenic, in powder, one ounce; burnt alum, in powder, half an ounce; mix all together and keep in a bottle for use.

After the wound has been dressed with the digestive medicines, as stated before, sprinkle these powders over the surface once or twice a day. If the wound only require healing it may be first anointed with the following tinctures and the powders afterwards be dusted on:

RECIPE NO. 76.—Take tincture of benzoin, two ounces; tincture of myrhh, two ounces; aquafortis, half an ounce; mix gently together and bottle for use.

These powders and tincture will be found sufficient to keep down all superfluous flesh and assist nature in healing up the wound.

Wounds that penetrate into the cavity of the chest require nearly the same treatment as other fresh wounds; in some cases it will be advisable to omit using the styptic oils (No. 71). Wounds of the abdomen or belly require persons of skill and judgment in the proper management of them, for if any of the intestines be displaced, or exposed to the air, it might endanger the life of the animal. The following lotion will be found adequate for purposes of this kind:

RECIPE NO. 77.—Take nitre, in powder, half an ounce; Goulard's extract, two ounces; camphorated spirit of wine, four ounces; rain water, one pint; mix and bottle for use.

In all accidents, where part of the intestines is exposed to the air, they should be well bathed or fomented with this lotion milk warm; afterwards anoint them with the liniment No. 74, then endeavor to replace them and support them with a roller or bandage. The diet of the animal in cases of this kind should consist of bran mashes with a little ground barley, corn or linseed mixed in it.

Hemorrhages in wounds frequently happen; it is, therefore, highly necessary that persons should be acquainted with the course of the arteries.

Whenever a blood vessel is wounded, or divided, and the hemorrhage likely to prove dangerous, the first care must be to stop the bleeding by pressure, provided the wound be in a situation to admit of the application of a roller or bandage. Pressure, where it can be properly applied, is certainly the best remedy; but as there are many cases that will not admit of this treatment, the stoppage of blood may be attempted by actual cautery where the part will allow it, otherwise the following styptic powders may be used. Sometimes, however, it is more convenient to tie up the blood vessel; but these circumstances must be left to the judgment of the operator:

RECIPE NO. 78.—Take blue vitriol, white vitriol, green vitriol, alum, wheat flour and bole armenic, each two ounces; powder and mix them together for use.

The mouth of the divided vessel must be covered over with a sufficient quanty of these styptic powders, and pressed to with lint or tow and then well secured by a roller or bandage.

SECTION XXVII.

WOUNDS OF THE JOINTS.

These are not so common among cattle as among horses. The former are seldom troubled with anything more in these parts than those wounds which are of a common nature and which generally heal readily; while the latter are subject to severe contusions that often render them of little use afterwards.

The treatment of wounds in the joints greatly depends on the manner in which they have been received.

Such as are attended with severe bruises are more difficult to heal than those received from a cut. All recent wounds that are attended with swelling and inflammation it will be necessary to foment with the fomentation No. 73, as there directed; after which rub them well with the liniment No. 74 and dress the wounds with the digestive ointment No. 72. These dressings should not be more than for three or four days, or until the inflammation and swelling subside, otherwise they might occasion a discharge of the joint oil. The following compound mixture, therefore, will be found adequate to the cure of most wounds in the joints of neat cattle:

RECIPE NO. 79.—Take mel-Egypticum, two ounces; tincture of myrrh and aloes and tincture of benzoin, each two ounces; aqua-fortis, half an ounce; mix and bottle for use.

The wound, if possible, should be filled with this mixture, either by injection or pouring it in, and its mouth should be stopped with lint or tow to prevent it running out, and supported with a bandage or roller.

This method, if proceeded in, will in most cases be found sufficient to cure all wounds in the joints of neat cattle.

SECTION XXVIII.

STRAINS AND BRUISES.

These accidents befall cattle of all descriptions, and as most persons are well acquainted with them they require but little description. Neat cattle are not so liable to strains as the horse. Strains or bruises may affect either the muscles, ligaments or tendons. Strains of the former are generally attended with considerable inflammation, and the latter with a rupture or breaking down of the tendon; but this last is not so common among neat cattle. Strains of the stifle, whirl bone and back are very frequent amongst these animals, and are chiefly occasioned by romping or playing together. The cure in all the different parts must first be attempted by removing the inflammation and swelling. The following mixture will be found suitable for every purpose of this kind:

RECIPE NO. 80.—Take spirit of sal-ammoniac, with lime, two ounces; oil of olive, four ounces; spirit of turpentine, four ounces; camphorated spirit of wine, four ounces; mix and keep in a bottle for use.

These oils will be found excellent for all kinds of strains, bruises and hurts in different parts of the body. Let them be well rubbed in on the part affected once or twice a day; and if necessary they may be assisted by fomenting the part first with No. 73, as there directed. If any feverish symptoms should appear, it will be best to keep the body open by giving the purging drink No. 3. Strains of the hip joint, shoulder, stifle and back, being more deeply seated, require a more powerful application.

RECIPE NO. 81.—Take opodeldoc, four ounces; spirit of sal-ammoniac, with lime, two ounces; spirit of turpentine, two ounces; oil of origanum, one ounce; oil of olive, two ounces; cantharidies, in powder, two drachms; mix and bottle for use.

These are powerful oils in curing deep-seated strains in fleshy parts of the body; they will be found to dissolve the coagulable lymph, which often remains in strains of long standing.

They must be well rubbed on the part affected once or twice a day, as may be thought best. After the pain, inflammation and the effects of the oils are gone, a weakness in the part often remains for some time, which may be removed by applying the following strengthening plaister:

RECIPE NO. 82.—Take black pitch, half a pound; white pitch, four ounces; compound litharge plaister, two ounces; strengthening plaister, two ounces; melt them over a slow fire; when dissolved take them from the fire and add grains of paradise and cummin seeds, fresh powdered, of each one ounce; stir them well together, and when milk warm apply the plaister all over the part affected, and immediately cover it over with a flannel bandage.

SECTION XXIX.

CANCEROUS ULCERS.

These are the most difficult to heal of any ulcers to which neat cattle are liable. They generally make their first appearance in a hard livid tumor, seated in some of the glandulous parts of the body. Some of these are moveable and others are fixed; some are inflamed and quickly break out and discharge a thin matter; at other times they discharge a thick yellow matter and the wounds are apt to fill up with fungous flesh. They are chiefly on the cheeks, eyelids and on the glands between the jaw bones. They are supported by a scrofulous tendency of the neighboring fluids.

The cure greatly depends on the part of the glands when the ulcer is seated. There are some parts that will admit of a total extirpation, which may be done with a knife or (if preferred) by actual cautery.

The choice of these methods must be left to the judgment of the operator. After the wound has been thoroughly cleansed from all extraneous matter, let it be treated all over with lunar caustic, or sprinkled with red precipitate; and afterwards dress it with the following mixture:

RECIPE NO. 83.—Take Egypticum, four ounces; compound tincture of myrrh and spirit of turpentine, each two ounces; sublimate, in fine powder, two drachms; spirit of salt, half an ounce; mix and keep in a bottle for use.

Let the wound be dressed with lint or tow dipped in this mixture once a day, and if any superfluous flesh should appear it will be necessary to keep it down with the above caustic; or instead of this

the wound may be sprinkled over with the powders No. 78 before it be dressed with the mixture. As wounds dressed with the above seldom fill up in the same manner as those which are dressed with digestives, it may, therefore, be in some cases advisable, after the wound has been well cleansed, and the acrid discharge has been stopped, to use one part of the digestive ointment No. 72 and two parts of the above mixture well mixed together on a slab with a spatula. The wound may be dressed once or twice a day with this spread on lint or tow.

Purging is sometimes advisable in cases of this kind, and may be administered once a week for three or four weeks. No. 3, 4 or 26 may be given as there directed. By these the great flux of tumors will in some measure be carried off by stool and cause the above medicine to act more powerfully on the wound. When these hard excrescent tumors, or schirrlous swellings of the glands first make their appearance, they may with ease be removed by the following ointment:

RECIPE NO. 84.—Take quicksilver, half a pound; strained turpentine, four ounces; spirit of turpentine, two ounces; rub them together in a mortar until all the globules of the silver disappear; then add hog's lard, one pound; work them well together until properly incorporated

A sufficient quantity of this ointment must be rubbed on the parts affected once a day for eight or ten days. Then leave it off for a month; and if any substance remain the ointment should be repeated as before. In some cases the following compound mercurial ointment will be more efficacious:

RECIPE NO. 85.—Take mercurial ointment (No. 84), two ounces; strong aquafortis, two drachms; mix them together; then add cantharides, powdered, two drachms; mix the whole together for use.

This must be well rubbed on the part affected every day for five or six days; then leave off for a month, and if the tumor be not dispersed repeat the treatment as before. In this manner it may be repeated as often as may be found necessary.

There is no danger in the application of either of these ointments on any part of the animal's body, provided they are prevented from licking it.

SECTION XXX.

THE FOUL IN THE FOOT.

This appears to proceed from the habit of body more than from any external cause. Neat cattle of all ages are liable to this complaint; but cows of a gross habit of body suffer most by it. It generally first makes its appearance betwixt the claws or hoofs in the form of a hard crack, attended with considerable inflammation, and in a short time will discharge a fetid and offensive matter similar to that of the grease in horses heels. At other times it makes its

appearance in the form of a large tumor upon the cornet between the hair and the hoof, attended with great pain and inflammation. This is considered to be similar to the downfall, and to proceed from the same cause, though not in the same place, one being in the udder and the other in the foot. The pain is often so considerable so as to reduce the animal to a mere skeleton. If this disease makes its appearance between the claws, wash the part clean from all dirt; when dry take a rope one-quarter of an inch in size, then chafe the part affected by it until of a glow or red, then dress the part with a wood skewer dipped in butter of antimony, oil of vitriol, or aquafortis, and let them stand in a dry place for two hours. This should be repeated for two or three times, and if the part swell and appear much inflamed, it must be well rubbed with the liniment No. 74, and then if the tumor be likely to suppurate apply the following poultice:

RECIPE NO. 86.—Take tar, one pound, and melt it; then add linseed meal, half a pound; mix and apply milk warm on the part affected.

The liniment and poultice must be repeated once a day until the tumor is sufficiently ripe to be opened; afterwards dress the wound with No. 83 and continue the poultice and liniment until the inflammation and swelling be reduced and the parts acquire their former state. The cure may be completed by continuing to dress the wound with No. 83, or if that be thought too strong the sublimate may be omitted. When the foul appears to proceed from a superabundant flow of humors collected from different parts of the body, and settled in the foot, the cure may be accelerated by giving the animal a purging drink (No. 3) once a week for two or three weeks, as there directed.

SECTION XXXI.

TO DRY A COW OF HER MILK.

This is a subject with which every dairy man should be well acquainted. Some cows are more difficult to dry than others by reason of their giving so large a quantity of milk.

Without great care and management these will be liable to the downfall, either in the udder or in the foot; or it may terminate in some inflammatory disease.

Cows that milk themselves are very difficult to dry, and those that give a large quantity of milk and such as are in good condition should be folded over night in a yard. The next morning give the following drink:

RECIPE NO. 87.—Take roach alum, in powder, six ounces; bole armenic, in powder, two ounces; mix and put in a pitcher and pour on them a pint and a half of boiling water; then add one pint of vinegar and give when milk warm.

The cow must be milked clean at the time the above drink is given; and in two hours after may be turned to pasture. About

four days after, if her udder appear hard and full, she should again be milked clean and the drink repeated.

This is generally sufficient to dry any cow of her milk; but as some cows give so much that renders them difficult to dry, it may be necessary to repeat the drink and milking every fourth day for three or four times before they can be completely dried. Or the following drink may be given, which is equally as useful as the former, if not more efficacious:

RECIPE NO. 88.—Take red wine tartar, in powder, one pound; molasses, four ounces; put them in a pitcher and pour on them three pints of boiling water; stir well and give milk warm.

This is a powerful drink for the purpose, as well as the former; in order to give more time it may be necessary to change the drinks. Another formula is therefore subjoined:

RECIPE NO. 89.—Take alum, in fine powder, six ounces; red wine tartar, in powder, half a pound; bole armenic, in powder, two ounces; molasses, four ounces; mix in a pitcher and pour a quart of boiling water on the ingredients; then add a pint of vinegar and give to the cow milk warm.

These are two excellent drinks, as well as the former, and are equally powerful (if not more so in drying up their milk). They may be repeated in the same manner as the first.

If one of these drinks were given every month during summer to cows that are of a gross habit of body, it would prevent the dreadful disease of the downfall in the udder, which often baffles skilled persons well acquainted with the diseases of neat cattle.

SECTION XXXII.

ANGLE-BERRIES.

These are cutaneous tumors growing out above the surface of the skin, and of different sizes, with a very disagreeable appearance. Young heifers or cows of their first and second calves, are the most subject to them. These fleshy excresences make their appearance on different parts of the body.

Those upon the udder are not only disagreeable, but makes the cow troublesome to milk. They rise from a small base, and hang in a pendulous form of different sizes. The common method used to extirpate these excrescences is to fix a ligature round their bases and suffer them to rot off. Others, after they have been tied round with a cord, will cut them off and anoint the part with oil of vitriol. But the most ready and effectual way is to throw the animal and take hold of the angle-berry at the base with a pair of broad, flat barnacles, such as are used in farriery; then take a firing iron and sear or burn it off; touch the seared part all over with a skewer dipped in oil of vitriol or aquafortis. Either of these will destroy the roots and prevent them from growing again; but if they are attended to in time, before they come to their full growth, they may

be eradicated by applying the following ointment. A small quantity of this ointment must be rubbed on the angle-berries, warts or any excrescences that may grow upon the udder or any other part of the body, every night and morning, and they will gradually waste away:

RECIPE NO. 90.—Take green vitriol, white vitriol and blue vitrial, in powder, each one ounce; camphor, two drachms, dissolved in half an ounce of rectified spirit of wine; sugar of lead, half an ounce; hog's lard, half a pound; mix them well together on a slab and keep in a pot for use.

SECTION XXXIII.

SORE TEATS.

Some cows are more subject to sore teats than others; they are liable to this complaint at all seasons of the year, particularly such cows as have just calved. If the teats be afflicted in the summer they often become ulcerated, which renders them difficult to milk. The following ointment should be kept for purposes of this kind:

RECIPE NO. 91.—Take Elder ointment, six ounces; beeswax, two ounces; melt them together and add sugar of lead, one ounce; alum, in powder, two ounces; mix and stir them together.

The cow's teats should be well rubbed with this ointment night and morning after milking. If in the summer and the flies bother them, add one ounce of assafœtida in powder and dissolve it with the ointment and wax. This will prevent the flies from teasing the animal.

SECTION XXXIV.

THE MANGE.

This disease is well known to most dairy and other cattle men, and therefore require but little description. It is seated in the skin and generally proceeds from bad keeping during the winter; it makes its appearance early in the spring as soon as the weather is warm.

The symptoms are as follows: The skin or hide appears fast on all parts of the body; and every time the animals rub themselves the hair comes off and a thick white scurf of a scabby appearance is to be seen.

In the cure of this disease mercurial ointment cannot be used with any degree of safety among neat cattle, as there is hardly a possibility of preventing them from licking themselves. Either of the following ointments, therefore, may be safely used in diseases of this kind:

RECIPE NO. 92.—Take hog's lard, two pounds; spirit of turpentine, half a pint; put them in a pot that will hold twice the quantity; then gradually add oil of vitriol, two ounces, and keep gently stirring until mixed; then add sulphur vivum, in fine powder, half a pound; mix them well together for use.

Or the following may be used if thought more proper:

RECIPE NO. 93.—Take soft soap, one pound; hog's lard, one pound; spirit of turpentine, one pint; flour of sulphur, half a pound; white helebore, in powder, half a pound; pearl ashes, in powder, two ounces; mix them all together for use.

All the infected parts must be well rubbed with either of these ointments every third or fourth day for three times; this should be done when the sun is out. Thus, the medicine will prove of good effect, and very often in slight cases one dressing will be sufficient if the ointment be well applied. At the same time it will be necessary to give the following drink. And this drink may be repeated every third day for three or four times. It will be found to possess the requisite quality of promoting the animal secretions, by which nature will be regenerated:

RECIPE NO. 94.—Take aniseeds and carraway seeds, fresh powdered, each two ounces; grains of paradise, powdered, one ounce; nitre, in powder, one ounce; flour of sulphur, two ounces; crude antimony, in powder, half an ounce; molasses, four ounces; mix for one drink in a quart of hot water or gruel and give milk warm.

SECTION XXXV.

LICE ON CATTLE.

Lice on cattle, like the former disease, require no description, as filth is always visible; if not, by shedding the hair, they will soon appear. The cattle most subject to lice are those which through bad keeping are reduced to a low state, so that nature is not able to cast off her old coat, in consequence of this an extra harbor is left for the vermin to accumulate in.

Different kinds of medicines have been applied for the destruction of lice. Mercurial ointment would prove the most effectual in destroying them if it could be used with safety, but neat cattle are so liable to lick themselves it would endanger their lives by bringing on a salivation upon the glands. It will, therefore, be better to omit its use and to apply the following:

RECIPE NO. 95.—Take hog's lard, two pounds; spirit of turpentine, half a pint; oil of vitriol, one ounce; mix them gradually, and when united add whale oil, half a pint; staves-acre, in powder, half a pound; mix all together into an ointment.

Rub some of this ointment on the body where lice are found, and repeat it in five or six days after; twice dressing is generally suffi-

cient. Or, if thought better, use the ointment No. 92 or No. 93, which is equal to the above. It will be beneficial to give the animal, when reduced to a low state, the nourishing drink No. 1 or No. 2, as there directed.

SECTION XXXVI.

WARBLES.

These proceed from a fly known by the name of the Gad Fly, which punctures small holes in the backs of neat cattle and there deposits its eggs. These are speedily hatched by the heat of the animal's body, a small tumor arises, containing a grub and having a small hole in its center, that answers as a breathing place for the insects.

The best way to destroy these worms is to pull off the scab that covers the mouth of the hole and pour a few drops of the black oils No. 71 into the orifice of the wound, or a few drops of spirits of turpentine may be used instead.

SECTION XXXVII.

TO MAKE A COW TAKE THE BULL.

It is sometimes necessary to promote this desire in cows, but is very rarely wanted if the animal be healthful and in good condition; and it is much better when nature perform her own office, but this cannot always be dispensed with. The following drink, therefore, may be given:

RECIPE NO. 96.—Take aniseeds, grains of paradise and bay berries, powdered, of each two ounces; cantharides, in powder. two drachms; mix them together for one drink.

This drink should be given in a quart of warm milk at any time of the day, and not feed the animal anything for two hours, then feed as usual. If this drink has the desired effect the cow will take the bull in about eight or ten days; if not, the drink may be repeated with the addition of half a drachm more of cantharides to it. It is best to give this drink on a full stomach, as it will be less liable to bring on the strangury. But if the latter should take place give her the following drink:

RECIPE NO. 97.—Take Nitre in powder, two ounces; sweet spirit of nitre, one ounce; tincture of opium, half an ounce; mix and give in a quart of linseed tea.

This drink may be repeated if found needful.

SECTION XXXVIII.

BULL BURNT.

This is a local disease, affecting the sheath of the bull; the parts become foul and full of cancerous ulcers which inflame the bull's yard and causes the sheath to swell. The most effectual way of curing this disease is to throw the bull down and turn him on his back. Then take a cloth and fold it round his yard, and gently draw it out of the sheath to examine all the ulcerated parts, which should be bathed and washed with the following lotion·

RECIPE NO. 98.—Take camphorated spirit of wine, four ounces; sugar of lead, one ounce; white vitriol, two ounces; rain water, one quart; mix and bottle for use.

The bull should be dressed twice a week with this lotion, and kept from cows until cured. Care must be taken that every part is properly washed or bathed with this mixture. Or he may be dressed in the same manner with the following mixture, which is more powerful:

RECIPE NO. 99.—Take sugar of lead, white vitriol, blue vitriol and bole armenic, of each half an ounce; boiling water, one pint; mix, when milk warm bottle for use.

This is a very powerful mixture, but should not be used the first time of dressing; afterwards it may be used with safety. During the time of treatment give the bull the purging drink No. 3 or No. 4 with the addition of four ounces more of salts, as there directed, and repeat it once a week for two or three times.

The matrix or womb of the cow is sometimes affected by the bull, which causes the parts to inflame or swell, likewise to discharge a very disagreeable ichor; at the time of staling she appears to have considerable pain. All the parts that are infected should be bathed with the lotion No. 98, the other being too strong for a cow, and a linen cloth should be soaked in the lotion, folded round the finger, and introduced into the womb, or injected with a syringe. A few dressings will generally be sufficient.

SECTION XXXIX.

PROPER TREATMENT OF COWS THAT SLINK OR SLIP THEIR CALVES.

Abortion, or cows slipping their calves in an early period of gestation, is a great loss sometimes to the owner; it appears that cows in the best condition are the most liable to this misfortune. It is sometimes caused by an accident, and frequently happens in the summer. At other times it has appeared of an epidemical nature, several having slipped their calves in the course of a few days; in this case it proceeds from debility and a relaxation of the generative parts.

Cows are the most liable to slink their calves towards the fall of the year, while feeding on autumnal grass; or on low marshy grounds; and at other times it has proceeded from the smell of carrion exposed in the pasture. The sense of smell in neat cattle is remarably acute.

Cows that are in danger of slipping their calves, before their due time of gestation, should be taken from the pasture at night and from two to three quarts of blood taken from them, and remain in the yard until the morning, then give the following drink:

RECIPE NO. 100.—Take alum, in powder, six ounces; Peruvian bark, in powder, half an ounce; aniseeds, fresh powdered, two ounces; molasses, four ounces; mix for one drink.

Put the ingredients in a pitcher and pour a quart of boiling water on it; cover it down till milk warm then give it to the animal. This drink may be repeated in eight or ten days, and it will produce the desired effect.

Some cows are constantly a bulling every two or three weeks during the summer. A better drink cannot be given to stop this, and also to make her hold to the bull. The drink should be given to the cow two hours after bulling; it strengthens and braces the parts of generation.

SECTION XL.

THE NATURE AND PROPERTY OF THE BLOOD.

The blood may justly be called the element or life of animal nature, which is always in a continual motion, circulating through the veins and arteries of all living animals. On a slight examination it may appear homogeneous, but it consists of very dissimilar parts. When blood is first taken from the animal it very soon loses its volatile part, which goes off in the form of vapor, and as soon as the vapor is dissipated the blood congeals and becomes a trembling mass.

The principal part of this coagulated mass is the crassamentum, which contains the color and gives it to the other parts. There is also the serum, or watery part of the blood, from which is formed the crust on its surface after taking it from the vein. In this serum, besides the albumen (which hardens like the white of an egg), there is a considerable portion of water, likewise a small quantity of ropy mucus; besides these there is a small portion of sea salt, fine chalky earth, of iron and of fixed air; to which may be added the elementary fire. By the joint co-operation of the whole, life is infused into all parts of the body.

It appears that the natural elements of the blood formed by the animal occonomy are the albumen and the globules. The albumen is the immediate matter of growth and nutrition. The globules never pass the emunctories, except by violent exertion or disease; the saline, acid, morbid, bilious and other particles that are found in the circulating blood are rather hetrogeneous than elementary

parts of it. When the animal is in full health and vigor of constistution, the blood is mild and gelatinous, but by disease it is often rendered very acrid.

SECTION XLI.

BLEEDING.—ITS UTILITY AND IN WHAT CASES NECESSARY.

Bleeding, when properly employed, is productive of great and good effects, as also of much injury when improperly resorted to. It is useful in checking the progress of all inflammatory diseases. The following are the chief symptoms that indicate bleeding to be necessary:

First.—Where animals in a thriving state rub themselves until the hair comes off, the spot being frequently covered with a dry scab; in this state not more than half the usual quantity should be taken at one time.

Second.—In all kinds of inflammatory diseases where the eyes appear red or inflamed, and the veins puff up and seem considerably larger than common.

Third.—In fevers, bruises, hurts, wounds upon the head, strains in different parts; and

Fourth.—In all other accidents that may occur to the animal where there is reason to apprehend a stagnation of blood.

The manner of performing this operation is too well known to require any description.

The fleam is an instrument in general use for neat cattle; the quantity of blood that may be proper to take away at one time cannot here be determined, but must be regulated according to the size, condition and the disease under which the animal may labor at the time.

In many inflammatory diseases too much can hardly be taken, provided the animal be not faint or likely to fall down. A strong healthy animal can bear the loss of three or four quarts of blood without the least injury; larger cattle that are attacked with inflammatory fevers will bear a larger proportion to be taken away at once than usual, from four to six quarts; but it will be found better in these diseases not to take away too large a quantity at a time, but to repeat it occasionally. The animal should neither be suffered to drink cold water immediately after bleeding nor to graze; the former may chill the blood, and the latter cause the orifice to bleed again. If this operation be performed in the summer, it will be best to take them from the pasture towards evening, bleed and stand in the yard all night, and the next morning turn them to their pasture. The utility of bleeding will be found under different heads in this treatise, and the proper quantity necessary to be taken from the animal at one time according to the disease and symptoms.

SECTION XLII.

THE COW POX.

It appears that this disease was not noticed by anyone before Dr. Jenner, who is the first man that attempted to convince the world of its great utility in protecting the human race from that baneful disease, the smallpox. Vaccine innoculation has been introduced into all parts of the world. As a substitute for the smallpox it has met the approbation of the public. The cow pox is a disease that gradually proceeds to maturation, and afterwards declines or dies away; it is known by the following symptoms:

The eyes of the animals appear heavy and dull, and their milky secretions are considerably lessened, frequently to more than one-half in a few days. The animals moan and wander about by themselves. Irregular pustules appear on the nipples of the cow, which, at their first appearance, are commonly of a palish blue, or rather of a color somewhat approaching to a livid, and are surrounded by an erysipelatous inflammation.

As soon as this disease takes place, a cordial drink should be given, which is necessary to warm and stimulate the solids and give fresh motion to the fluids, by which nature will be better able to repel the disease; the drink No 1 or No. 2 may be given as there directed for two or three times.

If any feverish symptoms should appear, the body must be kept open by giving one of the following purging drinks as there directed, No. 3, 4 or 42. Any of these drinks will be found sufficient to purge the body and check the fever. The teats and udder should be well rubbed with the ointment No. 91 twice a day after milking, or the following lotion may be used if thought better:

RECIPE NO. 101.—Take crude sal-ammoniac, in powder, half an ounce; wine vinegar, half a pint; camphorated spirit of wine, two ounces; Goulard's extract, one ounce; mix and bottle for use.

This lotion is more pleasant to use than ointment and is very good for sore teats in general, though they may proceed from other causes. It should be well rubbed on the parts affected twice a day.

SECTION XLIII.

WOOD-EVIL, MOOR-ILL, CLUE-BOUND, FARDAL BOUND AND PANTAS.

A great variety of curious names is given to many of the diseases of neat cattle. It certainly would be a great convenience if nearly one-half of them were expunged and more rational ones admitted.

The Wood-evil chiefly proceeds from debility, occasioned by taking cold when exposed to bleak winds. This brings on a pain and stiffness in the joints, and if early attended to may be easily removed by giving a few of the drinks No. 1 or 2, as there directed. But if the disease be of some time standing, it will be more proper

to treat the animal in the same manner as for the Rheumatism or Joint Felon. (See section 22.)

Moor-ill is a state of debility said to be occasioned by the want of fresh water; this may easily be remedied by removing the animal where it is more plentiful, and by giving a few of the above drinks as for Wood-evil.

Clue-bound or Fardel-bound.—The animal when in this state is disposed to be saped or costive; the thin part of the excrements force their way through the middle or one side of the hardened part. This frequently takes place at the commencement of a fever and requires speedy relief, otherwise the life of the animal will be in danger. Give the purging drink No. 3 or 4, as there directed, as soon as possible, and repeat it until a passage is obtained. The animal may be restored in a short time by giving two or three of the drinks No. 14, as there directed.

Pantas is another species of disease similar to the former, requiring the same treatment.

SECTION XLIV.

ON THE DISEASES INCIDENT TO YOUNG CALVES, AND THE METHOD OF TREATING THE COW AFTER CALVING.

After the extraction of the calf proper care should be taken of the cow, in providing her a suitable place to lie down in; and also to allow her to lick her calf, which not only makes her fond of it, but the friction of her tongue puts the young animal in motion, and will enable it to rise much sooner than it otherwise would. About a quart of the first milk should be taken from the cow before the calf be allowed to suck, after which it may have free access to the cow.

The milk for the first three or four days being of a purging quality, will evacuate the bowels of the yellow matter called the meconium, which is confined in the colon during gestation. If, therefore, this should not perform the necessary evacuation, recourse must be had to medicines, of which the following will be suitable for this purpose:

RECIPE NO. 102.—Take castor oil, one ounce; prepared kali, half a drachm; ginger, in powder, one teaspoonful; mix and give it in half a pint of warm milk.

This drink may be repeated the next day if the bowels are not sufficiently open. It is advisible to let the calf have free access to the cow, as soon as it is able to stand. And on the second day the calf may be taken away, if the cow's udder be free from kernels, or hard excrescent substances; otherwise it should be permitted to suck for a day or two longer.

The jolting of the calf's head against the udder greatly assists in dispersing the excrescenses, and in preventing the downfall or an

inflammation taking place in this part, which might cause much trouble.

The diet and treatment of cows, at the time of parturition, must be regulated according to the season of the year; if in the winter, or early in the spring, care should be taken to house them as soon as possible, and to give them warm water and mashes of scalded bran, with some ground grain in them, two or three times a day. If in the summer they should be kept in the shade in the day time and at night protected from the cold.

SECTION XLV.

THE METHOD OF TREATING THE NAVEL STRING AFTER EXTRACTING.

As soon as the calf has been taken from the cow and has been properly cleansed, either by the cow licking it or by a cloth, let the umbilical cord, or navel string, be secured in the following manner: Take a waxed thread of several thicknesses and pass it several times around it, about two inches from the body, secure it fast, then clip it off a little below the tied part. Care is necessary in tying the thread lest it cut the navel string and cause an effusion of blood, that might endanger the life of the calf.

However, if this should happen to be the case, no time must be lost, and the wound dressed as soon as possible with the following styptic mixture:

RECIPE NO. 103.—Take compound tincture of myrrh, two ounces; wine vinegar, half a pint; oil of vitriol, half an ounce; mel-Egyptiacum, two ounces; mix and bottle for use.

Take a pledget of lint or tow and dip it in the above mixture; then apply it to the part affected and support it with a bandage round the body. This will generally stop the bleeding in a short time; or, if thought more proper, the folloping poultice may be applied, which will be found of equal efficacy in repelling the hemorrhage:

RECIPE NO. 104.—Take wheat flour, half a pound; blue vitriol, in powder, half an ounce; alum, in powder, two ounces; mix them into the consistence of a poultice, with the preceding mixture, No. 103.

This poultice must be spread thick on leather or linen (the former is the best), then apply it to the navel, and support it with a bandage as before. If the part tumefy, and be likely to suppurate, it should be dressed with the following:

RECIPE NO. 105.—Take spirit of turpentine and spirit of sal-ammoniac, with lime, each two ounces; linseed oil, six ounces; oil of amber, one ounce; mix them and bottle for use.

All the swelled part must be well rubbed with this mixture twice a day, and the wound dressed with the digestive ointment No. 72,

as there directed. Under such circumstances the young animal is so much reduced by pain and the loss of blood as to require medicine to brace and strengthen its relaxed condition. The following restorative will be found very good in this case:

RECIPE NO. 106.—Take Peruvian bark, in powder, two drachms; ginger, fresh powdered, two drachms; mix and give them in half a pint of new milk.

This may be repeated once or twice a day for a few days until the calf recovers its strength. By strict attention to the above treatment the life of the animal may be saved in cases that appear desperate.

SECTION XLVI.

DIARRHŒA OR DYSENTERY.

This is a disease to which young calves are very subject at the age of from two to six weeks, and is generally caused through change of diet.

The time of changing the diet of these young animals is the most difficult. Care should therefore be taken to change it very little for the first two weeks, but to give it mostly new milk; afterwards bring it to porridge by slow degrees, or otherwise a dysentery may take place which weakens the calf, and if not checked in time will end in a complete dysentery.

The symptoms are as follows: Great weakness, loathing of its food, a continual purging, everything it takes turns acid and coagulates on the stomach. Towards the last stage of this disease the stools are bloody and fetid, a large portion of the defensive mucus of the intestines is mixed with them; after which a gangrene or mortification soon takes place and terminates in death.

This may be prevented (if timely attended to) by proper management. The following medicines should be given:

RECIPE NO. 107.—Take rhubarb, in powder, two drachms; castor oil, one ounce; prepared kali, one teaspoonful; mix and give in a pint of warm milk.

This drink will generally purge and evacuate the stomach and bowels of the indigested crudities with which they are loaded in cases of this kind. The day after giving the above drink give the following powders as directed:

RECIPE NO. 108.—Take prepared chalk, four ounces; prepared crab's eyes, two ounces; bole armenic, two ounces; bone, burnt until white, in powder, two ounces; ginger, fresh powdered, two ounces; mix them all well together.

Take one large tablespoonful of these powders, mix in a pint of new milk and give it to the calf before feeding every night and morning as long as the purging continues. These powders will be found a powerful absorbent, and frequently to check, if not to cure the disease in its last stage.

Calves that are attacked with this disease, at the age of four or six weeks, may have the castor oil increased to two ounces; the powders also may be doubled, and to these powders may be added one teaspoonful of tincture of opium every time they are given. By increasing the quantity every dose may be made suitable to the age of the calf. In cases of long standing there is often a continual motion to stool, which is called tenesmus. The pain in this case appears to be limited to the rectum, and may be removed by the following clyster:

RECIPE NO. 109.—Take linseed, two ounces; boil in a pint and a half of water; strain and add molasses, two ounces; salt of tartar, two drachms; prepared chalk, one ounce; tincture of opium, half an ounce; olive oil, one ounce; mix all together while warm and inject it up the rectum, and apply the hand to the anus for five minutes.

This clyster will expel the acrid and slimy humors adhering to the coats of the rectum; if found necessary it may be repeated once a day.

SECTION XLVII.

COSTIVENESS IN YOUNG CALVES.

The costiveness of some calves may take place at the age of three or four days, but it generally does not appear until the time the young animal is put on dry food, which may be at or about the age of eight or ten weeks. In every state of costiveness the animal will be in danger if not timely removed.

Neat cattle, whether young or old, when laboring under any internal disease, are liable to become costive. And while so, are liable to inflammatory fevers of different kinds. And if purgative medicines are not given in time there is often little hopes of recovery. Neat cattle, of all others, verge most rapidly to a state of dissolution when suffering under any inflammatory disease. (See section 20, on Purging Medicines.)

The greatest art of curing diseases is to be well acquainted with their nature, and the constitution of the animal, together with a proper knowledge of the quality and quantity of every medicine necessary to be given in each disease, in order to obtain the desired effect. Without this knowledge there will be but little probability of success. If the purgative dose be too small it will be apt to increase the disease, and if too large it will be liable to reduce the young animal to a weak state. A proper quantity, therefore, sufficient to produce the desired effect is the point most necessary to be sought for; and of this point the author ventures to hope that long experience has given him a confident knowledge. The following different formulas will serve to elucidate the subject so as to enable the practitioner to prescribe for calves of every age:

The following drink is suitable for one six weeks old:

RECIPE NO. 110.—Take Glauber salts, three ounces; ginger, in powder, half an ounce; aniseeds, fresh powdered, half an ounce; molasses, two ounces; mix in a pint of boiling water and cover down, and give when milk warm.

The following may be given to one about eight weeks old:

RECIPE NO. 111.—Take Glauber salts, four ounces; rhubarb, in powder, two drachms; ginger, carraway seeds and aniseeds, fresh powdered, of each half an ounce; molasses, three ounces; mix the same as No. 110 and give.

Or, if thonght best, the following may be given, especially in inflammatory cases:

RECIPE NO. 112.—Take castor oil, four ounces; rhubarb, in powder, two drachms; prepared kali, one drachm; ginger and aniseeds, powdered, each half an ounce; molasses, two ounces; mix and give the same as No. 110.

Any of these drinks may be repeated once a day until they produce the desired effect. By increasing the Glauber salts or the castor oil the drinks may be accommodated to every age. The great utility of purging medicines consists in carrying off those crudities which so frequently engender in the stomach and intestines of young calves and produce many fatal diseases, as is obvious to those who have the management of young cattle. It will be necessary here to introduce a cordial drink, which is always best to be given after purging, as it not only nourishes and heals but stimulates to fresh action, and will be beneficial in removing flatulency from the stomach:

RECIPE NO. 113.—Take aniseeds and carraway seeds, powdered, of each one ounce; coriander seeds, ginger, grains of paradise, fresh powdered, each half an ounce; molasses, two ounces; fresh butter, one ounce; mix and give as No. 110.

This will be found an excellent drink to strengthen the stomach and promote an appetite.

SECTION XLVIII.

THE HOOSE IN CALVES.

This disease most commonly attacks young calves during the first year, and generally while at grass in the summer.

In some dry summers large numbers are fatally attacked. Upon examination after death a bunch of worms will be found in the gullet netted or matted together. These, by their continual tickling motion, cause the young animal to be in a constant state of hoosing or coughing, by which the powers of digestion are so much impaired as to render the chewing of the cud impracticable. And if proper medicines are not applied they languish and pine away like a consumptive patient.

All these evils may be prevented with care and proper management. The following drink will be found effectual in destroying these kind of vermin:

RECIPE NO. 114.—Take wormwood and savin, each two ounces; Indian pink, half an ounce; cut or bruise them small and put in a pitcher; then pour a quart of boiling water upon them; cover them down and stand in a warm place for twelve hours; strain and add to the liquor ginger, in powder, half an ounce; aniseeds, fresh powdered, two ounces; linseed oil, one ounce; mix and give milk warm.

The calf must fast two hours before the drink is given, when it may be turned to pasture. It will be necessary to repeat the drink every other or third day for some time. The above drink is calculated for one of the age of three months, and from that to six or eight months. If the animal be older a larger portion of the ingredients must be added, if younger less will suffice. Or the following may be given if preferred:

RECIPE NO. 115.—Take wormwood, one handful; Indian pink, half an ounce; cut or bruise them small and soak them in a quart of boiling water about twelve hours; strain and add gentian and worm seed, in powder, of each half an ounce; carraway seeds and aniseeds, fresh powdered, of each one ounce; fresh butter, one ounce; mix and give milk warm.

The young animal must fast as in the former drink. This drink will be suitable for those of the age of six months, and from that to one year. It may be repeated every third day for three or four times; then leave off for a week, and if the calf still continues unwell repeat it as before.

The aforesaid drinks will increase the appetite, promote digestion and destroy vermin from the larynx. Worms in neat cattle we believe are not very common, except in the above cases. In many instances where calves have been so bad with this complaint that they baffled the power of other medicines, the disease has instantly given way on giving them one tablespoonful of spirits of turpentine clear. It may be repeated every third day for three times.

SECTION XLIX.

OBSERVATIONS ON THE PROPER METHOD OF DIVIDING THE DIFFERENT DRINKS MENTIONED IN THIS TREATISE, SUITABLE FOR NEAT CATTLE FROM THE AGE OF ONE YEAR AND UPWARDS.

The reader is requested to bear in mind that in the preceding pages the drinks are chiefly calculated for cattle that have arrived to a state of maturity. It will, therefore, be necessary for those persons who have the management of neat cattle to have a proper

knowledge of the method commonly used in dividing each drink suitable for different ages. Those of a purgative nature first claim our attention, as they are the most necessary for every one to make himself thoroughly acquainted with.

If too large a dose be given the animal's life will be in danger. On the other hand, if too small a quantity be administered the symptoms will be increased; thus it will be obvious that either extreme may lead to a disappointment of cure, if not to the death of the animal. It is indispensably necessary that all persons who prescribe medicines for cattle should be well acquainted with the nature and power of the animal's frame, the symptoms of all diseases, and likewise quality and operative powers of the medicines prescribed. Without this knowledge our proficiency in the healing art will be very deficient.

The following method, if strictly attended to, will lead to a proper division of those drinks whose operative powers are the most considerable:

First.—For an animal of one year old, and from that to a year and a half, one-half of any of the following purging drinks will be sufficient: Nos. 3, 4, 10, 11, 20, 27, 32, 37, 42, 46.

Second.—For such as are from one year and a half to two years and a half, three parts out of four may be given of any of the aforesaid drinks; afterwards a whole drink may be given.

By this method every drink may be properly divided suitable for every age, size and constitution. The above rule will also serve to regulate the other drinks.

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